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REPORT

OF THE TASK FORCE ON THE

TREATMENT OF OBESITY

Canada

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PREFACE

As a result of concerns about the safety, competence and integrity of weight loss programs, Health and Welfare Canada convened a Task Force on the Treatment of Obesity. It brought together Canadian experts with diverse backgrounds in medicine, nutrition, dietetics, nursing, psychology, epidemiology, fitness, communication and advertising. Authorities outside the Task Force were consulted as required.

The Task Force identified the major issues and challenges in the treatment of obesity. One of the most important was the need to develop standards for healthy weights as a prerequisite to establishing the need for, and standards of, treatment. This led Health and Welfare Canada to establish the Expert Group on Weight Standards, which met concurrently with the Obesity Task Force and developed healthy weight guidelines. These appeared in a document - *Canadian Guidelines for Healthy Weights* - which was published by the Department of National Health and Welfare in October 1988.

The next concern was the development of guidelines to help assure that Canadians have access to weight loss programs which are safe and non-exploitive. The issue is discussed in this report, which evolved from earlier work of the larger Task Force, and was prepared by a working group chaired by Dr. J. Hunt, M.B., B.S., FRCP(C), a Vancouver-based specialist in diabetes and endocrinology. This report deals with its subject in a general way and does not evaluate individual programs, nor does the report review cosmetic treatment such as liposuction.

For purposes of this report, obesity is defined in terms of a person's body mass index (BMI) (Figure 1) and the actual or implied health consequences of this BMI. Situations where the BMI does not apply are discussed as required throughout the text. Since the BMI and its health consequences are the measures of importance, no attempt is made to differentiate between the terms overweight and obesity. Further explanation of the BMI is given in the report.

Throughout the text, the terms "calorie/caloric" and "energy" are used interchangeably. The calorie referred to is known as the "large calorie" or "kilocalorie," which has been used to measure energy in metabolic studies. The "kilojoule" has replaced the calorie or kilocalorie as a unit of energy measurement in scientific writings, but "kilojoule" is not in common usage, and we would like this report to have a wide readership.

This report is a companion publication to:

a) *Canadian Guidelines for Healthy Weights* (Health and Welfare Canada 1988);

b) *Nutrition Recommendations: The Report of the Scientific Review Committee* (Health and Welfare Canada 1989);

c) *Promoting Healthy Weights: A Discussion Paper* (Health and Welfare Canada 1988);

d) *Nutrition Recommendations ... A Call for Action* (Health and Welfare Canada 1989);

e) *Action Towards Healthy Eating* ... (Health and Welfare Canada 1990); and

f) *Nutrient Value of Some Common Foods* (Health and Welfare Canada 1987).

Readers are encouraged to refer to these other documents when seeking further information on healthy weights, nutritional requirements and the nutrient value of foodstuffs.

EXECUTIVE SUMMARY

Approximately 27% of Canadians are overweight or obese. The causes of obesity are not well understood. Although the health risk posed by obesity varies substantially from person to person, weight loss is often recommended to prevent or ameliorate certain medical conditions, including hypertension, non-insulin-dependent diabetes and coronary artery disease. However, much of the incentive to lose weight stems not from health concerns but from social pressures.

Weight loss poses risks which range from minor to life-threatening. Many people take these risks despite the fact that it is notoriously difficult to maintain weight loss. Also, some normal weight and underweight people relentlessly and compulsively try to become thinner, thereby putting themselves in danger of impairment or death from malnutrition.

Despite the hazards and relatively dim prospects of long-term success, the weight loss industry actively encourages people to lose weight. While some controls exist, such as certain provisions of the Food and Drug Act and Regulations, Acts administered by Consumer and Corporate Affairs, and some provincial laws, there is a general lack of legislative coherence and of professional and operational standards in the weight loss industry. This situation is detrimental to consumer safety. For example, consumers have no ready means of redress when they have a grievance against a weight loss program. The Task Force would like to ensure that weight loss facilities are responsible to their clients and defined regulatory bodies with regard to client safety.

This report explores some of the background to the current situation, details concerns and offers remedies by way of 84 recommendations and guidelines which cover the following topics:

a) client intake (includes advice on how to determine who and who should not enter a weight loss program)

b) weight loss methods

c) fitness

d) personnel

e) monitoring and follow-up

f) advertising and promotion

g) licensing, accreditation and certification

h) training

i) mechanisms for implementation

j) investigations

k) research

l) education and public information

m) diets less than 1200 calories per day

n) use of very-low-calorie diets in non-insulin-dependent diabetes

o) total fasts.

These guidelines are intended to ensure: (a) that those for whom weight loss is contraindicated are not accepted into treatment programs; (b) that those who receive treatment are not exposed to dangerous regimens, and (c) that consumers are treated with integrity.

INTRODUCTION

Obesity and weight loss are overlapping enigmas. Many people whose health might benefit from weight loss cannot successfully achieve or maintain a healthy weight. Some underweight people relentlessly and compulsively try to become thinner and thinner, to the point where they might die from malnutrition. Many people who are at a healthy weight are convinced that they must lose weight. Many obese people appear to be very healthy, while some people at healthy weight may be at risk for serious illness because of the way fat is distributed in their bodies. Further adding to the confusion are the following: the causes of obesity are not well understood; the health risks of obesity are not equal from one person to the next; our socially driven need for ideal weight for appearance sake is placing excessive emphasis on slimness (Polivy and Herman 1983). In addition, there are risks associated with weight loss which range from minor to life-threatening. Getting people into weight loss programs is now a profitable industry[1], and there are a multiplicity of advertisements and exhortations - both overt and covert - that implore people generally to lose weight, or by particular methods backed by one vested interest group or another.

The weight loss industry is largely unregulated. This report is intended to show ways to protect the public and stimulate greater client responsibility in the weight loss industry. The recommendations contained in this report constitute a first step toward Canadian standards in weight reduction. Essentially, the proposed guidelines are intended to ensure: (a) that those for whom weight loss is contraindicated are not accepted into treatment programs; (b) that those who receive treatment are not exposed to dangerous regimens; and (c) that consumers are treated with integrity. **The principle which the Task Force would like to extol is that of public safety.** The interests of any group are secondary to this principle. The guidelines apply to the promotion, marketing and operation of a wide range of weight loss programs, facilities, services and enterprises in Canada and are intended to serve: the public; providers of programs and services; the professions involved in weight reduction; and federal, provincial and territorial governments.

We clearly recognize that implementation is and will be a challenge, partly because there are no precedents, partly because of the nature of the weight loss industry and partly because knowledge is rapidly changing in this field. Implementation of guidelines depends upon:

1. having an alert public. Therefore, public education is an important aspect of implementation. To this end, a prototype checklist, adopted from one issued by the Ontario Dietetic Association, is included in the Appendices (Appendix IX). A comprehensive examination of this matter is contained in *Action Towards Healthy Eating* ... (H&WC[a] 1990).

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1 A U.S. **News of the World Report (May 14, 1990)** states that the U.S. weight loss industry exceeded $32 billion in 1989, and will exceed $50 billion in 1995. The *Ottawa Citizen* (September 15, 1990) reports that diet centres posted Canadian sales of at least $300 million per year and that profits range from 10 to 30 percent.

2. having some means of inspection so that good programs receive recognition through:

a) self-governing accreditation by the weight loss industry;

and

b) government licensing.

While this is a national problem, much of the responsibility for implementation rests with the provinces and territories. Therefore, the Task Force would like to see a discussion of improved consumer protection in the weight loss industry placed on the agenda of the meetings of federal/provincial/territorial ministers of Health. Any serious self-policing that the weight loss industry undertakes would be helpful and complementary to government involvement.

PREVALENCE OF OBESITY

As mentioned in the preface, obesity is defined in terms of a person's body mass index (BMI) (Figure 1), and the actual or implied health consequence of this BMI. The BMI is derived from a person's weight and height; this is discussed later. While one out of every two adult Canadians aged 20-69 are at "healthy weight" (BMI 20-25, Zone B, Figure 1), approximately 27% of the adult population are overweight or obese (Pereira and White in H&WC[e] 1988), with about 20% of women and 32% of men over the age of 18 years having weights above the healthy weight range. Of this number, more men (29%) than women (19%) are at increasing risk of developing health problems (BMI greater than 27, Zone D, Figure 1) because of excess weight. (At the other end of the spectrum, more women [15%] than men [5%] are in the category likely associated with health problems in some individuals because of underweight [Zone A, Figure 1] [H&WC[e] 1988].)

FIGURE 1

CANADIAN GUIDELINES FOR HEALTHY WEIGHTS

CANADIAN GUIDELINES FOR HEALTHY WEIGHTS
(FOR ADULTS 20 TO 65 YEARS OF AGE)
ZONE A
ZONE B
ZONE C
ZONE D
BMI less than 20
BMI between 20 and 25
BMI between 25 and 27
BMI more than 27
May be associated with health problems for some people
Good weight for most people
May lead to health problems in some people
Increasing risk of developing health problems
GENERALLY ACCEPTABLE RANGE

CAUSES OF OBESITY

The tendency to gain weight varies from one person to another, even when food intake, physical activity and lifestyle are apparently similar. But, in the vast majority of cases, the fundamental causes of obesity are unknown. No one physiological disorder has been recognized that accounts for the imbalances that lead to obesity[2]. Among the biological factors which have been thought to play a role in determining body composition are: genetic differences, disorders of the neurotransmitters in the brain, the digestive tract, hormones, resting metabolic rates, body-weight set points, and the rate at which energy is utilized in assimilating food and/or doing physical activity (Jequier 1983; Bogaardus et al. 1986; Poehlman et al. 1986; Stunkard et al. 1986; Bouchard et al. 1990; Stunkard et al. 1990). **However, we do know that weight gain invariably results when more energy (calories) is consumed than is expended.** Why some individuals consistently consume this extra energy, while others do not, remains a puzzle. One of the biological problems in managing obesity is that with continuing calorie restriction the body becomes more energy-efficient, and weight loss becomes progressively harder to achieve (Liebel and Hirsch 1984; Blackburn et al. 1989).

Psychological, social and economic factors are considered by some authorities to be important in causing obesity. With respect to psychological factors, no single prevailing personality type has emerged in association with obesity (Gray 1989). It may be that some individuals, by genetic imprinting or from childhood experience, are more prone to seek out food for gratification (Rodin, Schank and Striegel-Moore 1990). In our society, there is a wide range of well-advertised and generally affordable foods, many of which are nutritionally unbalanced and highly caloric. This availability may encourage overeating. At the same time, our energy expenditure is diminished through sedentary lifestyles and the use of labour-saving devices at work and at home. Obesity has been found to be more frequent in association with lowered socioeconomic status in Canada (Millar and Wigle 1986), the U.S. (Bray 1989) and parts of Western Europe (Helmert et al. 1989). Acculturation of aboriginal peoples into Western industrial society is also associated with increased obesity and a related type of diabetes mellitus (Montour and Macauly 1988).

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2 Only a very small minority of obesity cases can be attributed to specific anatomical/physiological problems, such as damage to the hypothalamus, or rare genetic syndromes in which obesity occurs in association with other stigmata.

HEALTH RISKS OF OBESITY

Overview

In large-scale population studies, strong correlations exist between indices of body fat (or leanness), such as the body mass index (BMI [discussed below]), and the incidence of cardiovascular diseases, hypertension, non-insulin-dependent diabetes and cancers of the breast, endometrium, colon and prostate (H&WC[e] 1988; Kissebah et al. 1989). For example, in the *Canada Fitness Survey* (1981), diastolic hypertension was more common as the value of the BMI increased: the risk was about twice as high when the BMI was 27 or higher than when it was 21 to 22, and it tripled when the BMI was 30 (H&WC[e] 1988).

Long-term studies suggest that premature mortality rates are higher among people who are overweight. At the 30-year follow-up of the Framingham Heart Study, survival rates among men were most favourable among non-smokers with a weight within 100% to 110% of ideal weight (Garrison and Castelli 1985). "The risk of death increased gradually with increases in weight. In addition, there was greater mortality among thin men. Thus, among the men in the study, the association between weight status and mortality seemed to follow a U-shaped curve. This relationship is quite complex. For example, mortality rates at all ages and categories of relative weight are higher for smokers compared with non-smokers," (H&WC[s] 1989). Manson et al. (1990) reported a strong association between obesity and the risk of coronary heart disease, both fatal and non-fatal, in a large group of middle-aged American women. The risk was greatest in those with a BMI greater than 29, a category which encompasses approximately 25% of U.S. women aged 35-64.

Also, obesity is a factor leading to high-risk pregnancies (Bray 1985), and is associated with gallbladder disease (Bray 1985), sleep apnea disorders (Smith et al. 1985), hormonal dysfunctions (Kissebah et al. 1989) and increased surgical risks.

The link between obesity and health status is still being clarified. Most studies to date have not taken into account the possible effects of dieting, or the nature of fat distribution within individuals (see below). Also, as noted by Roncari and by Pereira and White (in H&WC[e] 1988), the degree of impact obesity has on the incidence of disease is conjectural because: (1) the obese do not constitute a homogeneous group; (2) these diseases have a multifactorial etiology; and (3) the effect of obesity is probably mediated largely through various risk factors such as blood pressure, blood cholesterol, low-density lipoprotein levels, and glucose tolerance, at least in the case of cardiovascular diseases. As well, there is an apparently natural trend to increased weight through the adult years, and this may reflect normal physiological processes (Andres et al. 1985).

Upper-Body and Lower-Body Obesity

Recent evidence suggests that the health risks of obesity relate not only to the total amount of fat, but also to the pattern of fat

distribution. Specifically, abdominal fat may confer a greater risk than fat elsewhere in the body. This would mean that the person with upper-body obesity (apple-shaped, pot-bellied, android) is at greater risk than the person with lower-body obesity (pear-shaped, gynoid) affecting the hips and thighs (Björntorp 1987).

An individual's obesity pattern is easily, and apparently satisfactorily, determined by measuring girth at the waist and the hip, then calculating the waist-to-hip ratio (WHR). The WHR is a strong predictor of the obesity-related complications of diabetes and cardiovascular disease that is independent of and additional to the effects of overweight per se (Kissebah et al. 1989). Risks appear to be elevated when the WHR is 1.0 or greater in men, and 0.8 or greater in women (H&WC[e] 1988). Differences in fat distribution may increasingly influence decisions on whether and how to treat obesity (Björntorp 1985; Peiris et al. 1989; Ostlund et al. 1990; Schapira et al. 1990).

Benefits Associated with Obesity

Most studies of the health hazards associated with obesity show increased risk of morbidity and mortality with increasing weight. But the relationship is not straightforward. Some data appear to suggest certain potentially beneficial effects of moderately increased weight. For example, osteoporotic hip fracture appears to be less common in obese women. Also, with aging, some studies suggest that moderate overweight is associated with increased survival (Ernsberger and Haskew 1987; Andres et al. 1985), but others do not support this (Garrison and Castelli 1985).

TREATMENT

Benefits of Treating Obesity

Weight reduction can ameliorate or produce a remission in non-insulin-dependent diabetes (Leiter 1988), reduce or prevent high blood pressure (Chockalingam et al. 1990), alleviate sleep apnea (Smith et al. 1985), and lower blood lipids (Wood et al. 1988). According to the Department of National Health and Welfare's *Nutrition Recommendations: The Report of the Scientific Review Committee* (1989), "of all the suspected dietary risk factors for heart disease and cancer, obesity is perhaps most closely correlated with an increased risk. Thus, modification of energy intake and expenditure alone could bring about a reduction in disease frequency" (H&WC[g] 1989). (This in no way diminishes the importance of addressing tobacco smoking and other important risk factors that lead to the development of heart disease and cancer.)

Adverse Effects of Weight Reduction

Weight reduction is not a straightforward matter. While many, perhaps most, people can lose weight without significant ill effect, dietary restrictions and weight loss can result in adverse side effects. Fatigue, weakness, light-headedness, postural hypotension - even hair loss and nausea - are among the side effects of dieting that have been reported. Dieters have been found to have emotional disturbances and poor performance in test situations (Polivy and Herman 1983). Weight reduction may increase the risk of gallstones (Mok 1979; Liddle 1989). Maternal caloric restriction during pregnancy can have detrimental effects on the fetus (H&WC[g] 1989).

Some of the side effects of weight reduction are relatively minor and may be worthwhile tolerating when weight loss might clearly produce a benefit to one's health and well-being. However, aggressive treatment can result in life-threatening complications. For example, severe dietary restriction, as in total fasts, very-low-calorie diets or protein-sparing modified fasts, may be associated with edema on refeeding, and blood electrolyte imbalances leading to abnormal heart rhythms and death. At least 64 deaths associated with very-low-calorie diets have been documented in the United States (Wadden, Van Itallie and Blackburn 1990). The Task Force knows of at least 3 deaths in Canada in which coroners' juries cited dieting as a factor.

Outcome of Treatment

Successful weight loss is difficult, especially in the long term. Brownell and Jeffery (1987) examined the results of controlled trials of behaviour therapy for weight loss. These data, published in selected journals, suggest that current programs offered in research settings can deliver reasonable initial weight losses, but that weight regain tends to occur after treatment ends. The difficulty with maintaining weight loss is also documented in a study by Kramer et al. (1989), which followed 152 people for 4 or 5 years after a 15-week behavioral weight loss program: less than 3 were at or below their post-treatment weight on all follow-up

visits. Weight regain following very-low-calorie diets is also common. Wadden, Stunkard and Liebschutz (1988) found that people who received very-low-calorie diets alone initially lost 14.09 kg on average, but had regained all but 3.76 kg of this three years later, even though at least 53% of them (8/15) had received additional therapy.

In addition to the limitations of weight loss regimens, attention is now being paid to the potential hazards of the common pattern of losing and regaining weight (yo-yo dieting). This phenomenon may result in metabolic alterations that promote weight gain and work against weight loss (Blackburn et al. 1989). Recent evidence indicates that this type of yo-yo dieting may contribute to the development of upper-body obesity (discussed above), at least in premenopausal women (Rodin et al. 1990). The ultimate importance of the yo-yo phenomenon is yet to be determined.

General Advice Regarding Treatment

Weight reduction can certainly improve the health of some overweight/obese people, and arguably help many more. But not all overweight/obese people are unhealthy (H&WC[c] 1988). As well, the long-term results of treating obesity are, in most cases, disappointing. Weight reduction is not always an easy or innocuous procedure. Therefore, the decision to treat obesity is one that should be carefully considered beforehand.

TREATMENT PROGRAMS

Methods

Given the uncertainty about the causes of obesity, the only practical approach to most treatment is through regulation of food/energy consumption and activity pattern (energy expenditure). This behavioral approach aims to alter the energy balance so as to induce weight loss. When the caloric reduction reaches a level of less than 1200 calories a day, medical supervision is essential - except for meal replacement regimens of 900 calories or more that meet the Food and Drug Regulations (see discussion of diets of less than 1200 calories a day and Appendix IV).

Since long-term success depends upon alteration of eating and activity patterns, **treatment of obesity with pharmaceuticals is not generally favoured.** Some drugs sometimes used to treat obesity, e.g. human chorionic gonadrophin (HCG), have been shown to be ineffective (Weintraub and Bray 1989). However, in carefully selected situations, there may be a role for certain drugs, e.g. appetite suppressants requiring prescriptions (Weintraub and Bray 1989). Drug therapy will not be dealt with in depth in this report. Persons with questions about prescription drugs should consult their own physician. Safeguards and controls regarding over-the-counter (OTC) drugs for weight loss are already in place under the Food and Drug Act and Regulations (see Appendix XII for details).

Surgical treatment - such as stomach stapling or bypass - may be indicated in the presence of serious or life-threatening co-morbid conditions. Recourse to surgery should be individualized, preferably after evaluation by a university-affiliated obesity clinic or similar facility.

Varieties of Treatment Programs

Many different approaches to weight loss through reduction in food intake and increased caloric output are available to Canadians. The most comprehensive treatment programs are run by teams which are usually university-affiliated and multidisciplinary. These teams may include: physicians who are expert in the treatment of obesity, nutritionists, dietitians, psychologists, fitness specialists, and other health professionals who work together to improve the physical health and emotional well-being of the client. Such approaches are labour-intensive and costly. They are needed only in special cases, such as massively obese persons who may require very-low-calorie diets.

Next to self-administered programs, the most common programs are those offered by commercial clinics and self-help groups. As a rule, these do not offer multidisciplinary treatment or medical supervision. The Task Force believes that non-medically supervised programs can meet the health needs of many overweight people economically and effectively, provided the staff have sufficient competence, are aware of the limits of their programs, recognize the physical and psychological requirements of individual clients and follow the guidelines for good conduct and safety that are contained in this report.

Other available programs include treatment by health professionals operating as solo practitioners, as well as magazine articles, books, audio- and video-cassettes.

WHO SHOULD (AND SHOULD NOT) BE TREATED FOR OVERWEIGHT/OBESITY

Body Mass Index (BMI)

Some of what is, or is perceived to be, wrong with the weight loss industry in Canada can be resolved by the proper selection of weight loss candidates. As stated earlier, weight loss can confer health benefits on some individuals, while others may put their health (and possibly their lives) in jeopardy by losing weight and by the manner in which they choose to lose it. One key to determining who should, or should not, undertake a weight loss program is provided by reference to a person's body mass index (BMI)[3]. The BMI more accurately reflects a person's fatness than does weight alone, because the BMI takes height into consideration, and has been found to correlate well to health measures in population studies. The arguments in favour of using the BMI can be found in *Canadian Guidelines for Healthy Weights* (H&WC[e] 1988). The BMI zones and their meanings are contained in Figure 1. A method for calculating the BMI is provided in Figure 2. Situations where the BMI is not suitable are mentioned in the next section.

Selection on the Basis of the BMI

Weight loss becomes increasingly advisable as an individual's BMI exceeds the healthy weight range (BMI 20-27, Figure 1). Persons with a BMI greater than 27 are at increasing risk of developing health problems, especially hypertension, non-insulin-dependent diabetes and hyperlipidemia, which lead to a greater risk of coronary artery disease (H&WC[e] 1988). Weight loss is particularly encouraged among those who have coexisting health problems that can be ameliorated with weight loss (e.g. sleep apnea) and/or are at risk of developing conditions associated with obesity (e.g. those with a family history of diabetes).

Weight loss appears to be advisable for those with upper-body obesity (discussed earlier) when an individual's BMI is 25 or more.

While the BMI is a suitable screening instrument for many, if not most, healthy adults age 20 to 65, it is not appropriate for people outside the 20-65 age range, very muscular people, endurance athletes - such as distance runners - and pregnant or nursing women. Nor is the BMI suitable as a sole screening instrument for persons with concurrent medical conditions. Either the condition itself or its treatment might be affected by weight loss.

The relationships between the BMI and health risk are compiled from epidemiological findings which are population-based. However, any given individual may have an optimal BMI

3 The BMI is calculated as the ratio of body weight divided by the height^2, i.e.

$$BMI = \frac{\text{Weight in Kilograms}}{\text{Height in Metres}^2}$$

higher than the average range. Consultation with a physician is advisable for those with serious health concerns who are trying to identify their optimum weight.

Persons for Whom Weight Loss is Contraindicated

Weight loss is contraindicated for children, adolescents, pregnant and nursing women, and those who are underweight or who will become underweight with weight loss.

Who is Currently Seeking Weight Loss Treatment

A 1985 national health promotion survey (H&WC[b] 1990) revealed that over 50% of all adult Canadians wanted to lose weight (65% of women, 43% of men). More women than men desire to lose weight, even though obesity and overweight are more prevalent among men than among women. This survey indicated that 64% of women wanting to lose weight were either underweight or healthy weight. Among women who were already underweight, 12% wanted to reduce their weight. In other words, there is a preoccupation with slimness and weight loss among women which is not necessarily based on health needs. Also, this desire to be slender begins early among women; half of the girls of normal weight in two Canadian high schools were dieting because they saw themselves as overweight (Feldman et al. 1986).

Anorexia Nervosa/Bulimia Nervosa

Voluntary weight loss activity among underweight people is of particular concern, and it must be assumed, until proven otherwise, that these people have potentially fatal eating disorders, probably **anorexia nervosa** and/or **bulimia nervosa**. Persons suffering from these eating disorders have an exaggerated fear of becoming obese, a distorted body image and an obsession with thinness.

Anorexia nervosa is characterized by wilful starvation that results in drastic weight loss and malnutrition in a relentless pursuit of thinness. **Bulimia nervosa** involves compulsive binge eating followed by purging food, e.g. through self-induced vomiting, abuse of laxatives, and fasting or starvation. Ninety-five percent of bulimic and anorectic patients are female, aged 12 to 25. There is an increasing occurrence in women over the age of 25 and in males. Severe anorexia nervosa is estimated to occur in 1% of adolescent and young adult women, and serious forms of bulimia in 2-3% of women. Milder forms of these disorders occur in up to 10% of women (Canadian Medical Association 1989).

In summary, current data indicate that overall, men appear to be less concerned about obesity than they should be, and many women perceive themselves as overweight when in fact they are not. This phenomenon reaches a potentially fatal extreme in persons suffering from anorexia nervosa and bulimia nervosa.

Weight Loss for Cosmetic Purposes

Having reviewed who should and who should not lose weight for health purposes, we are left with the matter of weight loss for cosmetic purposes by persons who are in the healthy weight range and who presumably have a normal body image[4]. This, of course, is a matter of individual choice. However, with weight loss, there is a high treatment failure rate; there is suggestive evidence that weight cycling may have a deleterious effect; there are concerns about links between dieting and eating disorders (anorexia nervosa, bulimia nervosa) and nutritional deficiencies; and there may be a physiologically beneficial moderate increase in weight with aging (Andres et al. 1985). **Therefore, both those attempting to lose weight, and those offering weight loss services, should be mindful of the possible adverse health implications of weight loss, at all times, and especially when no health benefit is likely to arise from dieting.**

[4] Persons with anorexia nervosa are assumed to have a distorted body image.

MINIMUM TREATMENT REQUIREMENTS

Calorie/Energy Intake

A nutritionally balanced diet in accordance with *Canada's Food Guide*[5] (Appendix XI), or any replacement standard which may be issued by the Department of National Health and Welfare, is recommended, with a moderately decreased energy intake during the period of weight reduction. **A minimum of 1200 calories per day must be taken to ensure an adequate intake of nutrients when food choices** (as opposed to formulated meal replacements which are subject to Food and Drug Act and Regulations [see Appendix XII]) **form the basis of the diet program.** Intake must be from all food groups, distributed throughout the day, and adequate to meet the nutritional needs of each client, in keeping with the "Nutrition Recommendations for Canadians," "Canada's Guidelines for Healthy Eating" (H&WC[f] 1989 and Appendices V and VI), and *Canada's Food Guide* (Appendix XI).

Diets providing less than 1200 calories per day may be acceptable provided they are nutritionally adequate. For all practical purposes, this means that they are diets based on formulated meal replacements that meet the compositional requirements and other conditions set out under the Food and Drug Act and Regulations (Appendix XII). However, only rarely will an individual compliant with a 1200 calorie diet not lose weight. Greater degrees of caloric restriction make compliance more difficult and can lead to the development of injurious nutritional deficiencies (except for products meeting Food and Drug Regulations which are considered safe when used as directed).

Once target weight is reached, it is desirable that adults maintain an activity level that permits an energy intake of at least 1800 calories (or 7.6 MJ) per day while keeping weight within the recommended range (H&WC[s] 1989).

Calorie/Energy Output

A regular program of dynamic exercise using large muscle groups consumes fat, maintains or increases lean body mass, and improves fitness. While there is evidence that caloric restriction may induce more dramatic weight loss than exercise, when combined with caloric restriction exercise can preserve lean body mass and increase the amount of fat lost (Stern, Titchenal and Johnson 1987), and also help to overcome the drop in metabolic rate that typically occurs in association with calorie restriction. It appears that people who maintain weight loss tend to incorporate exercise into their daily routine (Stern, Titchenal and Johnson 1987).

A gradual and progressive increase in usual daily activities should be recommended as part of any weight reduction program, with a focus on frequency and duration of activity rather than intensity. Specific

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5 The report of the Communication Implementation Committee, *Action Towards Healthy Eating...* (H&WC[a] 1990), has recommended revision of *Canada's Food Guide*. At time of printing, we are not aware of the contents of the revised guide.

recommendations might include more walking instead of riding, taking stairs instead of elevators or escalators, doing errands personally rather than delegating them to others, and reducing use of energy-saving devices. Individuals participating in regular physical training programs should be encouraged to maintain normal activity during the rest of the day, so that the extra caloric expenditure of exercise is not compensated for by a subsequent reduction of normal activity.

An exercise program supervised by certified personnel should be included for selected clients whenever facilities within the program or community permit. Appropriate goal setting and effective monitoring of progress are essential components of the exercise/fitness component of a responsible treatment program. Exercise to promote and maintain weight reduction should be encouraged as a lifetime commitment.

WHY GREATER CONTROL OF THE WEIGHT LOSS INDUSTRY IS NEEDED

Despite the popularity of slimming, the risks associated with weight reduction, and the low probability of maintaining goal weight, the weight loss industry is largely unregulated. At present, Canada does not have specific standards of care, safety or effectiveness for weight loss programs, with the exception of the Food and Drug Act and Regulations related to meal replacement products, prepackaged meals for weight reduction diets, over-the-counter medications and prescription drugs. There are also safeguards which apply to fraudulent market practices, advertising, and contracts under federal and/or provincial consumer protection legislation. Provincial legislation pertaining to health professions, e.g. physicians, psychologists and dietitians, provides a degree of public protection for some types of weight loss programs.

But the current legislative framework leaves many areas of uncertainty. Neither credentials nor a licence are required to open a commercial weight loss clinic, offer a treatment program, or write about weight reduction. No statute defines the qualifications of a "diet counsellor." Numerous facilities offer weight loss counselling, special diets, figure contouring, or rapid weight loss programs. Self-help books, brochures, and audio- and video-cassettes abound. Are these programs advocating acceptable health practices? Are they creating undesirable effects on health and well-being by inducing the side effects mentioned earlier which, in some instances, can be life-threatening (Wadden, Van Itallie and Blackburn 1990)[6]? Are they persuading people at healthy weights who do not need weight loss to enter these programs? Are they resorting to other forms of consumer exploitation (Leiter, personal communication, 1990)?

At the moment, there is no regulating body responsible for the weight loss industry to which the public can turn for answers. This is unfortunate, as social ostracism is a problem among the obese (Weintraub and Bray 1989) and makes them vulnerable to exploitation. Some programs involve products and approaches that are questionable if not fraudulent. It appears that millions of dollars are spent annually by Canadians on weight reduction schemes of unknown or unproven efficacy. The public often assumes that weight loss businesses fall under government regulations which ensure proper conduct and client safety. As already mentioned, this is true only to a limited degree.

The Task Force recognizes that some high-quality programs and services exist. We are concerned, however, about:

1) the general lack of professional and operational standards for consumer safety and protection in the weight loss industry;

2) the lack of ready and specific means of redress for persons affected by abusive practices.

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[6] Canada's Food and Drug Act and Regulations provide protection against the abuses reported about U.S. diet programs that use very-low-calorie diets.

A major obstacle faced by the Task Force in evaluating the adequacy of existing weight control services is that there is little documentation of their effects, positive or negative. It is the considered opinion of the Task Force that public trust in persons offering weight loss programs and schemes is sometimes abused. The current entrepreneurial orientation of treatment services may enhance the potential for abuses, such as charging for ineffective services or providing services that have adverse health consequences. Treatment that adversely affects health, and/or unconscionably exploits people, cannot be tolerated.

The following problems need to be addressed:

1. Accessibility

- Persons from low socio-economic backgrounds have a higher prevalence of obesity and related health problems (Millar and Wigle 1986). Because most weight loss services, even many of those operated by Canada's hospitals, are not covered under health or social service programs, it must be assumed that poor people face economic barriers to necessary diet and nutrition counselling and related services that might help them improve their health. (We assume, of course, that programs are in place to help poor people get, as required, foods essential to their good health.)

- Conversely, while some needing treatment may not get it, others who seek and receive treatment may not need it. It appears that the commercial sector does not invariably discourage those people with healthy weights, who do not need weight reduction[7], from entering weight loss programs. While this might be understandable from a business point of view, it does not make good health policy, as there is concern about inducing or exacerbating eating disorders and/or reducing clients' weight below the level optimal for good health.

2. Insufficient and Inaccurate Information

- Many approaches to weight control are promoted. Most consumers are not in a position to assess their quality and safety. While some good advice is available (such as *Healthy Weights: A New Way of Looking at Your Weight and Health*, Ontario Ministry of Health 1989 [see Appendix X]), further education is required to help people make informed choices as to:

a) whether or not they need weight reduction; and

b) which programs will be safe and effective for them.

- A high percentage of participants in weight reduction programs are women. However, for the Canadian population as a whole, overweight is a more prevalent health risk for men. Strategies need to be developed that will encourage weight loss among those men whose health is at risk because of obesity.

- There is no assurance that adverse side effects of programs will be disclosed clearly and prospectively to potential clients of weight loss programs.

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7 As mentioned, some people within the healthier weight range may be appropriate candidates for weight reduction because of high waist-hip ratio.

- Weight loss claims and expectations are often unrealistically high. "Guarantees" of success are offered, though long-term failure is more common than long-term success, even in the best of programs. When expected weight loss does not materialize, disappointed clients may experience loss of self-esteem and reduced motivation to seek more appropriate treatment.

- Consumers entering treatment programs may be unaware that effort and commitment to long-term behavioral changes are required to maintain a healthy weight when a program is terminated. They must understand the need to maintain a balanced diet, regular exercise and an appropriate lifestyle.[8]

- Consumers may be unaware that, because of the complex and poorly understood nature of obesity, treatment may fail irrespective of the program quality or their commitment to weight loss.

- Some advertising is sensational and misleading. Some may even be fraudulent. Qualifications of treatment providers may be misrepresented. For example, phrasing in advertisements may be ambiguous. Does "professional supervision" mean the on-premise treating staff are actually provincially licensed health care professionals, or simply that such a professional is nominally available, possibly in another facility, another city, or even another country?

- "Hard-sell" tactics may be employed, and important information about costs and program requirements, including the obligation to buy literature or products, is not always disclosed until the contract is signed.

3. **Client Safety**

- Presently, there is no way of assuring that persons who might be harmed by weight loss are not being accepted into such programs. **Those at particular risk are: children, adolescents, pregnant and nursing women, persons with anorexia nervosa and/or bulimia nervosa, those who would become underweight with weight loss and underweight persons.**

- The massively obese (BMI greater than 37[9]) should not walk in "off the street" to just any weight loss program, but should be assessed by a medical practitioner with training and expertise in obesity management prior to entering any treatment program.

- Clients may not always be advised to consult their doctors about concurrent medical conditions, e.g. persons with non-insulin-dependent diabetes may need to adjust their medication dosage as their weight decreases.

- Some programs are ill-conceived and hazardous, i.e. they may be designed to induce rapid weight loss without sufficient concern for preservation of lean body mass and nutritional balance.

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8 There are a few unfortunate individuals who require a lower than usually recommended caloric intake and vigorous regular exercise in order to maintain weight in the healthy weight range.

9 Body mass is a continuum, and we have arbitrarily set a BMI of 37 as the boundary point for massive obesity.

- **Even healthy-weight persons are not immune to adverse effects of abuses of weight loss techniques.** For example, dieting may trigger previously suppressed tendencies towards anorexia nervosa and bulimia nervosa. As well, anyone can suffer the consequences of malnutrition resulting from nutritionally deficient weight loss programs.

- Cycles of rapid weight loss followed by rapid regain of weight may be physically and psychologically hazardous and may discourage further attempts at treatment.

- Various foods, drugs (see below) or devices may be mandatory parts of some weight loss programs. However, weight loss results only as a consequence of reduction in energy intake and/or an increase in energy output. No known foods, drugs or devices can directly induce weight loss. If they have any effect at all, it can only be through supporting reduction in energy intake, and/or an increase in energy output. Any claims to the contrary are fraudulent.

- Medications, both oral and injected, which are ineffective - and for some persons potentially harmful - are being used in some weight-reduction programs, e.g. at various times reports are received about the use of human chorionic gonadotrophin (HCG) and vitamin injections. Neither HCG nor vitamin injections, per se, are effective in inducing weight loss, and unless administered to treat some known deficiency (such deficiencies are rare in Canada and, generally, are not related to obesity) their use touches on possible malpractice.

- Some programs induce clients to think they have failed when in fact it is the treatment programs that have failed. This trades on people's desperation to reduce weight, and is unacceptable.

- It must be assumed that diets of less than 1200 calories per day based on regular foods will not provide sufficient vitamins, minerals and nutrients to meet an individual's requirements. Nonetheless, these diets are being used in some treatment programs, without the necessary supervision of physicians and dietitians.

- Diets less than 900 calories per day should be provided only under medical supervision by a doctor specially trained to treat obesity, working with an interdisciplinary team of health professionals. This may not always be the case at present.

Consumer Protection

- **The consumer protection aspects of the weight reduction industry are scattered and incomplete.** Some legislative safeguards exist under the federal government departments which administer the Food and Drug Act and Regulations, the Consumer Packaging and Labelling Act, the Competition Act, the Combines Investigation Act, and under some provincial consumer affairs and health departments which look after certain aspects of the weight loss industry. However, no dedicated body or mechanism exists for assuring accountability of the weight loss industry for program quality, treatment services, information about weight loss, specific products or practices, or for recourse on the part of clients who encounter exploitive practices or untoward events.

GUIDELINES/RECOMMENDATIONS

The guidelines which follow are based on the principle of public safety. The discussion to this point has tried to serve as a backdrop to the recommendations. We do not see these as a panacea, but we hope they will be a starting point for improved government regulation and constructive changes in the practices of the weight loss industry.

Client Intake

1. client safety and overall improvement of health and well-being should be given foremost priority;

2. there should not be consumer exploitation of any kind, including hard-sell tactics;

3. prior to entry into a program, the operator should provide complete disclosure of program information, including all costs, client obligations, staff credentials and qualifications;

4. prior to entry into a program, potential clients should be given, and have explained to them in an non-prejudicial manner, an assessment list, such as the appended "Sample Checklist for Selecting a Weight Loss Program"(Appendix IX);

5. all services, products or procedures should be administered only after obtaining the client's prior consent;

6. there should be a reasonable "cooling-off" period, consistent with other consumer legislation, in which payments can be refunded after the contract is signed;

7. programs should charge no penalties, and should charge reasonably for services used, when a program is inappropriate for the client or has to be terminated on the advice of a physician;

8. clients' confidentiality must be ensured;

9. all persons seeking help with weight control should be weighed and measured, and their BMI should be calculated. Those with BMIs less than 20 or greater than 37 should be automatically excluded from treatment initially and should be encouraged to consult their physicians for further evaluation and/or counselling. Persons in the BMI greater than 37 group may return for weight loss treatment after assessment by their physician. A sample intake form based on the BMI is included in Appendix VIII;

10. in addition to screening by use of the BMI, potential clients should be further screened, prior to acceptance into weight reduction and related fitness programs, to identify medical and other restricting conditions that might interfere with safe treatment/fitness programs. (No standard instrument exists for this aspect of screening. Currently, the best available method is clearance to undertake weight loss by one's personal physician. However, in order to properly assess the suitability of a treatment program for a given client, the physician must be provided with detailed information on the nature of the program. Persons without restricting conditions, who are in the group for which the BMI is a suitable screening tool and for whom weight

loss is advisable [see "Who Should (and Should Not) be Treated for Overweight/ Obesity"] can likely proceed to a weight reduction program of 1200 calories per day or greater without recourse to medical screening. The need to develop a screening tool is mentioned later under "*Research*");

11. clients must be made aware of possible adverse consequences and risks associated with treatment so that they can make informed choices;

12. there should be automatic referral to their physicians of potential clients with known medical conditions or special needs. (For example, weight loss in a person with non-insulin-dependent diabetes, or a hypertensive person, may require a consequent lowering of the dose of the medication(s) they are receiving);

13. persons over 65 should first consult their physician about the advisability of weight loss, as there is no generally accepted healthy weight range for this age group, and weight loss programs should be integrated with their general health needs;

14. children and adolescents should be referred to medical specialists who are experts in pediatric nutrition. (Generally speaking, weight loss should not be the primary goal of restricted energy intake programs for young children. Dietary intakes should be adjusted to reduce weight gain and allow longitudinal growth to occur until appropriate weight for height is achieved);

15. individuals with severe psychological problems should not undergo weight reduction without expert psychological counselling;

16. pregnant and nursing women should not be accepted into commercial weight reduction programs. Some of these women may be suitable candidates for weight control (i.e. control of weight gain as opposed to weight reduction) under the care of their physician.

Weight Loss Methods

17. all facilities, equipment and devices should meet provincial safety requirements in respect of their premises and equipment;

18. nutritional, medical, psychological and fitness interventions should be based on scientifically established principles;

19. assessment of the client's eating habits should be made, including a determination of the usual diet, food preferences and intolerances, history of weight loss attempts and results, and incidence of binge eating. Problem situations should be referred for assessment by an appropriate health professional;

20. attention should be given to establishing permanent changes in activity to increase energy expenditure and fitness, as opposed to an undue reliance on decreased food intake alone. Treatment providers should encourage and assist clients to set achievable goals, not only for weight control but also for fitness and overall health and well-being. Clients should be provided with the established goals in writing;

21. nutrition education consistent with *Canada's Food Guide*, "Nutrition Recommendations for Canadians" and "Canada's Guidelines for Healthy Eating" should be part of every weight reduction program;

22. diets allowing free choice of food must contain a minimum of 1200 calories per day in order to provide all essential nutrients (See MINIMUM TREATMENT REQUIREMENTS);

23. weight reduction diets providing less than 1200 calories per day may be acceptable if based on formulated meal replacements that meet the compositional and other requirements set out under the Food and Drug Act and Regulations (see Appendix XII);

24. substances and devices should not form part of a treatment regimen unless they have been proven to be effective in credible, controlled scientific studies;

25. products such as bulk formers, laxatives, vitamin supplements or other drugs or supplements are *not* to be sold as essential adjuncts to a weight loss diet. It should be clearly explained to clients that weight loss comes only from decreased energy intake and/or increased energy expenditure;

26. weight loss must be gradual, the long-term average no more than 0.25 - 1 kg per week, depending on age, sex, body size and level of physical activity. This rate of weight loss should be exceeded only in special circumstances under the supervision of medical practitioners with specialized training in the management of obesity;

27. the target BMI should not be below the healthy weight range shown in Figure 1;

28. target BMIs for persons with BMIs greater than 37 should be modest. Aiming for ideal weight based on population norms (Zone B, Figure 1) may be unrealistic and unsafe. Even modest sustained weight loss in this group is beneficial;

29. if the rate of weight loss is inadequate at 1200 calories per day when food choices are allowed, increased energy expenditure should be considered and, if not contraindicated, attempted before calorie intake is lowered, at which time medical supervision will be required (see diets less than 1200 calories per day);

30. modest daily amounts of non-nutritive, government-approved sweeteners are acceptable. Any warnings by Health and Welfare Canada, e.g. about daily limits and/or prohibitions about use in particular groups, such as children or pregnant and nursing women, should be strictly observed;

31. appropriate efforts should be made to enhance psychological well-being, in particular self-esteem, self-acceptance and self-reliance. The sense or the concept of "personal failure" should be minimized, and treatment providers must not blame clients for treatment failure;

32. clients should be made aware of and accept their responsibilities for the success of treatment programs in terms of improved lifestyle and self-reliance. They should also be made aware that maintaining healthy weight involves continuing commitment. (Clients often approach weight loss programs with expectations of a magical permanent change in their weight);

33. consumption or injection of prescription pharmaceuticals should not be used in weight reduction programs, except in carefully selected situations. Specifically, neither vitamins nor chorionic gonadotrophin are anti-obesity drugs, and their use for that purpose should be seen as a form of malpractice.

Fitness

34. programs which promote and/or provide physical fitness should screen for individual readiness to assume increased physical activity;

35. increases in daily activities should be gradual and progressive, and may include walking, climbing stairs, doing rather than delegating, and so on;

36. when providing a fitness component, properly trained personnel should be employed to supervise systematic programs of graded exercise adjusted to personal capabilities and health needs (e.g. aerobic exercises three times a week for at least 20 minutes, at a minimum intensity of 60% maximal heart rate and an energy expenditure which approximates 300-500 calories per hour or 100-150 calories for the 20-minute period).

Personnel

37. services, education or information should be provided by competent personnel with the appropriate specialized training for the roles they assume, in accordance with provincial and/or industry standards;

38. personnel should be required to obtain and to maintain continuing education concerning the principles and methods of weight control; the treatment of obesity; client education and counselling; and the use of procedures and equipment that they employ;

39. where these training programs do not exist, they should be established by the treatment providers in cooperation with provincial government departments responsible for education, as well as community colleges and universities. This would not preclude apprentice-type approaches where personnel are recruited from a pool of successful clients, depending upon the requirement of provincial law.

Monitoring and Follow-Up

40. at entry and throughout the program, the physical and emotional status of clients should be regularly assessed, including eating habits, psychological attitudes, fitness and physical activity;

41. self-management programs should provide licensed/accredited, standardized procedures for self-monitoring;

42. follow-up after treatment termination should be provided. Need, frequency and timing should be assessed on an individual basis.

Advertising and Promotion

43. standards for advertising and promotion of facilities, with regard to all aspects of the weight loss enterprise, should be implemented in accordance with these guidelines;

44. advertising should not be directed at children, adolescents, pregnant or lactating women, or persons with medical problems who should not be placed on a weight loss diet except under direct medical supervision or consultation;

45. full disclosure should be made of all aspects of the program, including credentials of treatment providers; costs of mandatory foods or supplements; and the use of medication, specific devices and/or procedures. Any claims respecting these products should emphasize that any weight loss is the result of a reduction in energy intake and/or increased energy expenditure and not the product, per se. Such products at best support a planned change in energy balance;

46. foods, drugs and devices must meet the requirements of the Food and Drugs Act and Regulations;

47. advertising should not promise or imply unrealistic weight loss. Testimonials should reflect representative weight loss and typical expectations;

48. claims should be substantiated by scientific evidence. This also applies when comparisons are made with competing products and services. Testimonial evidence is not to replace scientific evidence;

49. testimonials should reflect the current opinion of the endorser and should be based upon adequate information about, or experience with, the service advertised;

50. advertising should not state or imply professional supervision unless the named professional directly counsels and supervises the client;

51. scientific and technical terms should be used in consumer advertising only with a full sense of responsibility to the lay public.

Licensing/Accreditation/ Certification

52. treatment providers who are already licensed by professional bodies to practise should be appropriately certified by their professional associations as having undergone specialized training that qualifies them for administering or supervising obesity treatment programs and services at their respective level of competence;

53. to ensure greater accountability of weight loss programs, we recommend that provincial and territorial ministries of Health register, monitor and license all programs, clinics, enterprises or services involved in weight loss or control in their respective jurisdictions which are not led by some of the self-governing professionals mentioned above. This should be done with a view to improving public safety and eliminating exploitive practices of the weight loss programs industry. Costs could be met through the licensing charges;

54. provincial regulations should require reporting of the nature, frequency and scope of adverse reactions to treatment;

55. the weight loss industry should establish a national self-regulatory body for the accreditation of programs and services to ensure safety, appropriateness and efficacy of treatment facilities, equipment, procedures and services, and the employment of qualified staff;

56. this body should develop appropriate, standardized procedures for scrutinizing, administering and evaluating programs and services, including follow-up services after

program termination, and for assuring meaningful consumer recourse for ill-advised or abusive practices by weight loss providers;

57. this body should establish a newsletter, or some other means of communication, to keep health professionals and consumers informed about recent developments.

Training

58. all treatment providers should undertake training specified by provincial statutes and/or industry standards;

59. curricula for physicians and other health care professionals should allot more time to specialized training in areas related to weight reduction and the treatment of obesity;

60. treatment providers should upgrade their competence at regular intervals in accordance with professional and/or industry standards.

Mechanisms for Implementation

We recommend that:

61. federal, provincial and territorial governments endorse the principles proposed in this report for safe, high-quality care, and make the information in this report widely available;

62. provincial and territorial governments establish the licensing mechanisms already recommended;

63. provincial and territorial governments establish methods for the systematic monitoring of health outcomes and quality measures when monitoring weight loss programs. A prototype list of data inputs is appended;

64. a national expert council on obesity be established to monitor this field and to ensure continuing public safety. Representatives should come from consumers/the weight loss industry/health professionals and regulatory authorities. Financing should come from industry, government and the professions;

65. provinces and territories assure an appropriate mix of non-institutional, community-based weight loss services so that undue demand for services is not placed on multidisciplinary institutional teams. This should include support for accessible, affordable services, and self-help or community-help programs for disadvantaged persons from low-income groups who need access to obesity treatment services but are currently excluded on the basis of cost or regional disparities in services;

66. federal, provincial and territorial governments promote prevention strategies for weight control as outlined by the documents listed in the preface of this report;

67. consumer information, based on this report and approved by provincial ministries of health and consumer affairs, be readily available to clients at all clinics, facilities and enterprises involved in weight control or reduction in Canada.

Investigations

68. consumer complaints and redress mechanisms be established in each province and territory;

69. weight loss programs be required to advise clients of these mechanisms and how to use them.

Education and Public Information

70. a program to increase public awareness concerning obesity, its prevention, treatment and management be established with public, private sector and community support. Detailed recommendations in this regard are already contained in Action Towards Healthy Eating... (H&WC[8] 1990) and some of the other publications listed in the preface.

Diets Less Than 1200 Calories Per Day

Introduction

As mentioned earlier, it is assumed that weight reduction regimens of less than 1200 calories per day based on regular foods generally will not provide sufficient vitamins, minerals and nutrients to meet an individual's requirements. However, diets providing less than 1200 calories per day may be acceptable if based on formulated meal replacements that meet the compositional requirements set out under the Food and Drug Act and Regulations. These Regulations, when followed, result in the intake of a minimum of 900 calories per day.

In keeping with these Regulations, we have chosen to define low-calorie diets (LCDs) as being between 900-1200 calories per day. Very-low-calorie diets (VLCDs) are those of less than 900 calories per day.[10] The primary difference between low-calorie and very-low-calorie diets is that the latter require a substantially greater degree of medical supervision.

71. these diets are not for the public at large. Only persons who must lose weight for significant medical reasons (e.g. non-insulin-dependent diabetes, significant hyper-lipidemia, high risk of coronary heart disease) should undertake any of these programs. The decision as to whether or not to follow a low- or very-low-calorie diet, and the degree of overweight requiring weight reduction, should be made in conjunction with a physician;

72. when *low-calorie diets* are indicated, there should be monitoring by qualified physicians and dietitians, with appropriate vitamin and mineral supplements given concurrently, in order to meet recommended nutrient intakes (H&WC[8] 1989 [and see Appendix V]). For example, diets of less than 1200 calories per day may require supplementary iron for menstruating women;

73. Very-Low-Calorie Diets (VLCDs), Protein Sparing Modified Fasts (PSMFs), or Liquid Protein Diets (LPDs) should be used only after careful patient selection by

[10] Wadden et al. (1990) define very-low-calorie diets as those providing 400 to 800 calories per day, as does the American Dietetic Association.

physicians specially trained in the management of obesity. Generally, use of VLCDs should be confined to the massively obese (BMI greater than 37) who have failed on more conservative weight loss regimens and have significant complications as a consequence of their obesity;

74. a VLCD must consist of at least 1.2 g/kg of target body weight of high-quality protein per day (minimum of 60 g) concurrently with supplements of potassium, vitamins, minerals and trace elements in appropriate doses for a duration of no more than 12-16 weeks (Wadden, Van Itallie and Blackburn 1990)[11];

75. as the water normally available through food will not be ingested, extra hydration is required when using VLCDs;

76. patients on VLCDs must be examined at least weekly, by a specially trained physician, for an assessment which includes lying and standing blood pressure and pulse, as well as monitoring of serum electrolytes, urea, uric acid, liver function tests and electrocardiogram;

77. refeeding of those on VLCDs must consist of the gradual reintroduction of carbohydrates to minimize edema, electrolyte imbalances and related cardiac arrhythmias, cholecystitis and pancreatitis (Wadden, Van Itallie and Blackburn 1990);

78. as the weight loss associated with VLCDs is generally transient if no other treatment is provided, VLCDs should *only* be used as one component of a comprehensive multidisciplinary program, including: medical supervision by a specialist with specific training in obesity; dieting/nutrition counselling; behavioral modification and physical activity.

Use of VLCDs in Non-Insulin-Dependent Diabetes

79. some 80-90% of patients with diabetes of the non-insulin-dependent type are overweight. Given the dramatic influence of short-term marked caloric restriction on glucose tolerance in many such patients, some clinicians advocate the use of very-low-calorie diets (VLCDs), discussed above. However, VLCDs are potentially dangerous, require careful patient selection and supervision, and should not be used routinely. Maintenance of weight loss associated with these diets is often poor. Increased physical activity should be prescribed to aid weight reduction in view of its effect on caloric expenditure, metabolic rate, and possibly appetite (Brownell and Stunkard 1980), and its more direct effects on improving glucose tolerance (Leiter 1988). Physicians must also be alert to the fact that oral hypoglycemic drug dosage may need to be reduced with weight loss and exercise. If dosage is not suitably adjusted, the patient runs the risk of hypoglycemia and its sequelae.

[11] In order to maintain nitrogen balance (protein-sparing diet) as calories decrease, the absolute amount of protein remains more or less constant but becomes a higher percentage of the diet. This is necessary to preserve body protein as much as possible, maintain protein nutrition and reduce rebound weight gain when the diet is terminated.

Total Fasts

80. total fasts should *not* be considered as a method of treatment for weight loss, neither in the short term nor in the long term. They are hazardous and are limited in the amount of sustained weight loss they can achieve.

Research

Given the unknowns as to the causes of obesity, and the multiple risks associated with obesity and its treatment, more research is of paramount importance. The latest available figures show that for the fiscal year 1990/91, the Medical Research Council supported research in the amount of $0.56 million for clinical research into obesity. This amount increases to $4.5 million if one expands the category to include nutrition, metabolism and lipid transport. This does not include the amount spent on diabetes research. Between the fiscal years 1982/83 and 1988/89, the National Health Research and Development Program (administered by the Department of National Health and Welfare) spent $581,000 on obesity research. Research investigating the determinants of obesity, preventive measures, treatment methods, health implications of weight loss and strategies for monitoring adverse side effects should receive priority.

We recommend that:

81. funding for obesity research be increased;

82. private industry work with the National Health Research and Development Program, the Medical Research Council and others in order to improve funding for research in the field of obesity;

83. research be undertaken into the development of a reliable and valid screening questionnaire that could be universally administered by weight reduction programs so that clients selecting treatment can be appropriately assessed as to whether or not they should undertake weight loss and whether or not they require more intense supervision of their health needs than can be provided by the weight loss treatment program they are contemplating;

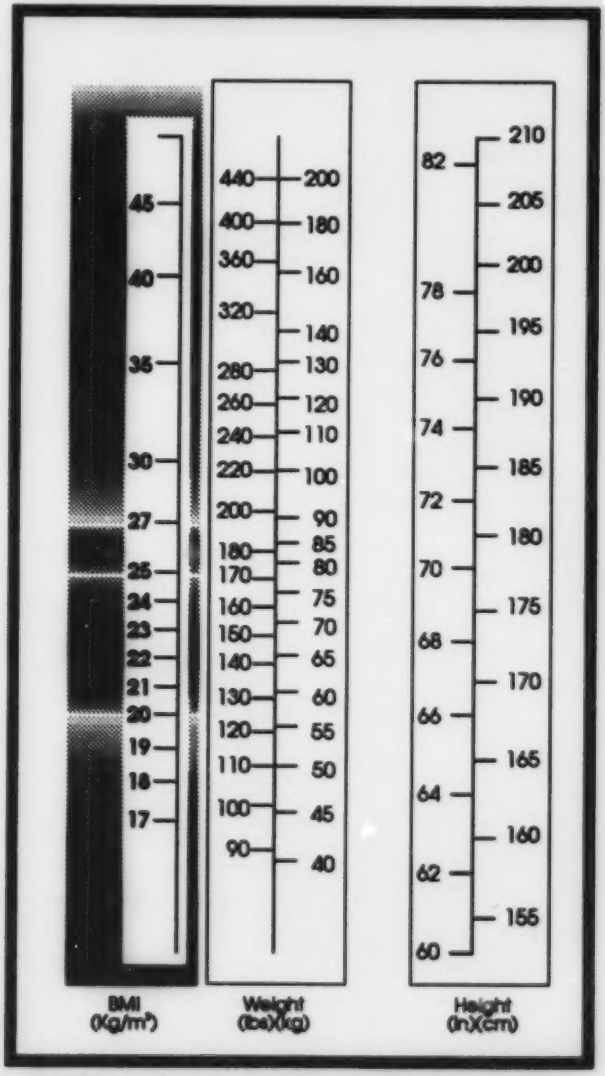
84. regional, local, special group and ethnic needs be researched.

CONCLUSION

The Task Force on the Treatment of Obesity presents its report to Health and Welfare Canada as a seminal document that should lead to Canadian standards for the treatment of obesity. Guidelines have been provided as to who might benefit from weight reduction and how such weight reduction programs should be conducted. However, the main goal of the Task Force is to protect public safety. This cannot be done solely by the publication and dissemination of this report. While some public protection exists, more is needed, and the Task Force hopes that the federal/provincial/territorial ministers of Health, and the weight reduction industry, will take up the challenge to develop effective mechanisms for the future, so that Canadians who enter weight reduction programs can do so without undue risk to their life, health or finances.

FIGURE 2

SAMPLE NOMOGRAM



Instructions: to obtain the BMI, identify the appropriate points on the height and weight scales and extend a straight line through these points onto the BMI scale.

APPENDICES

APPENDIX I

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and

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APPENDIX IV

CURRENT REGULATORY ACTIVITIES

The following is a brief overview of federal and provincial regulations.

A. Federal Government Legislation

The federal government legislates in areas affecting foods, drugs, fraudulent market practices and misleading advertising.

The Food and Drugs Act, administered jointly by the Department of National Health and Welfare and the Department of Consumer and Corporate Affairs, prohibits the advertisement to the general public of any food, drug, cosmetic or device as a treatment, preventative or cure for obesity and prohibits the sale of products so labelled or advertised. The associated Food and Drug Regulations restrict the advertisement or sale of foods for use in weight reduction diets to meal replacements or prepackaged meals which meet the compositional and labelling requirements under the Regulations.

The labelling requirements for meal replacements and prepackaged meals[12] include directions for use which would result in the intake of a minimum of 900 calories per day. With the exception of meal replacements that are recommended for use as replacements for all the day's meals, meal replacements and prepackaged meals represented for use in weight reduction must be accompanied by directions for use which include a sample seven-day menu plan which incorporates the meal replacement or prepackaged meal. Nutritional requirements for sample menu plans are contained in the Regulations and are based on the "Recommended Nutrient Intakes for Canadians," "Nutrition Recommendations for Canadians" and *Canada's Food Guide*.

Weight-reducing aids sold as drug products are subject to the requirements of the Drug Regulations. Information on such products must be submitted for assessment by the Department of National Health and Welfare. If sale of the product is authorized, an eight-digit identification number will be issued and will be required to appear on the labelling.

So far, two types of products have been authorized for sale as non-prescription drugs; they are topical anesthetic type of appetite suppressants and bulk formers which help to fill the stomach cavity, thereby aiding in reducing the amount of food desired. These products can only be recommended as aids in complying with a weight reduction plan. Any weight loss is the result of a reduced caloric intake, possibly in conjunction with a modification of lifestyle resulting in increased energy expenditure. This concept should be clearly presented to the public. No claim should be made that the product inherently causes weight loss or that overconsumption of food may be continued with an expectation of weight loss.

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12 At time of publication, Health and Welfare Canada is recommending a change to the Food and Drug Regulations which will change the current minimum of 900 calories per day to 1200 calories per day for all weight reduction diets subject to the Regulations, with the exception of those diets based on formulated meal replacements which are required by the Regulations to be nutritionally adequate. At time of printing, this change in the regulations is not yet in force.

The Department of Consumer and Corporate Affairs investigates, prosecutes and takes other corrective action in cases of fraudulent market practices and misleading advertising.

B. Provincial Government Legislation

Under the Constitution, the delivery of services in the health field is primarily a provincial responsibility. Consultations with the provinces and territories indicate a general lack of specific legislation to regulate the weight loss industry. At times, related legislation can be brought to bear. In this regard, each province and territory has its own act(s) to regulate business practices. As well, they have standards that relate to the sale of pharmaceuticals and the licensing of health professionals. A few examples are: the Pharmaceutical, Chemists and Druggists Act and the Medical Profession Act in Saskatchewan; the Prince Edward Island Act to Prohibit Unfair Practices in Sales to Consumers.

APPENDIX V

NUTRITION RECOMMENDATIONS FOR CANADIANS[13]

- The Canadian diet should provide energy consistent with the maintenance of body weight within the recommended range.
- The Canadian diet should include essential nutrients in amounts recommended.
- The Canadian diet should include no more than 30% of energy as fat (33 g/1000 calories or 39 g/5000 kJ) and no more than 10% as saturated fat (11 g/1000 calories or 165 g/5000 kJ) from a variety of sources.
- The Canadian diet should provide 55% of energy as carbohydrate (138 g/1000 calories or 165 g/5000 kJ) from a variety of sources.
- The sodium content of the Canadian diet should be reduced.
- The Canadian diet should include no more than 5% of total energy as alcohol, or two drinks daily, whichever is less.
- The Canadian diet should contain no more caffeine than the equivalent of four regular cups of coffee per day.
- Community water supplies containing less than 1 mg/litre should be fluoridated to that level.

13 Health and Welfare Canada. *Nutrition Recommendations . . . A Call for Action.* Ottawa, 1989.

APPENDIX VI

CANADA'S GUIDELINES FOR HEALTHY EATING[14]

- **Enjoy a VARIETY of foods.**
- **Emphasize cereals, breads, other grain products, vegetables and fruits.**
- **Choose low-fat dairy products, lean meats and foods prepared with little or no fat.**
- **Achieve and maintain a healthy body weight by enjoying regular physical activity and healthy eating.**
- **Limit salt, alcohol and caffeine.**

14
Health and Welfare Canada. *Nutrition Recommendations . . . A Call for Action*. Ottawa, 1989.

APPENDIX VII

PROTOTYPE OF DATA ITEMS FOR EVALUATION OF WEIGHT LOSS PROGRAMS

Each program should keep track of the number of clients treated (i.e. all who entered the program, including drop-outs), and for each client:

- age
- sex
- height
- weight at intake, termination and follow-ups
- data from screening questionnaires
- attendance record
- a record of the treatment protocol received
- client ratings of satisfaction
- total costs to the client
- positive side effects (achievement of goals other than weight loss: e.g. improved fitness level, reduction of risk factors, etc.)
- negative side effects.

These data, and any other information collected, may be used to form a *summary evaluation* of the program. For example, a summary evaluation could consist of a review of all patients who terminated the program within the past six-month period. Such summary evaluation should include information obtained at follow-up evaluations, as well as at the time of treatment termination, to reflect the long-term, as well as the short-term, effects of the program. The summary evaluation could then be updated regularly (at least semi-annually) to detect trends or difficulties. The format of the summary evaluation will vary somewhat from program to program since different programs have different goals.

Please note that the reliability and validity of this prototype have not been tested.

APPENDIX VIII

SAMPLE INTAKE FORM

	For Clinic Use Only		
Height:	feet	inches	cm (inches x 2.54 = cm)
Weight:	lbs.		kg (lbs. x 0.45 = kg)

Current body mass index (BMI) (See nomogram): _____

Desired BMI [15] _____

Definition Of Categories	
CATEGORY	**BMI**
1. Possibly underweight[16]	less than 20
2. Generally acceptable range	
(a) Not currently overweight or underweight	20-25
(b) Possibly overweight (may or may not be overfat)	25-27
3. Obese	
(a) Probably obese, increasing risk of health effects	27-30
(b) Obese (definite risk of health effects)	30-37
4. Massively Obese[17]	greater than 37
Physician referral required?	yes —— no ——

[15] Physician referral indicated if desired BMI is less than 20 and client cannot be dissuaded from entering the program.

[16] Client should not be accepted into weight loss program, and physician referral is indicated if client cannot be dissuaded from seeking weight loss.

[17] Physician referral required automatically. May return to weight loss program with physician's approval.

APPENDIX IX

SAMPLE CHECKLIST FOR SELECTING A WEIGHT LOSS PROGRAM[18]

There are always new diet programs and diet products which promise rapid weight loss. This checklist is designed to help the potential client of any program make a better decision in selecting a weight loss program that will lead to better health. The client is provided with this checklist, asked to answer "yes" or "no" to each of the questions, and then to check whether each response is appropriate by referring to the accompanying list of answers.

	YES/NO
1. Are you less than 20 or over 65 years of age, or a pregnant or nursing woman?	_____
2. Is your physician aware that you are on a diet or did your physician refer you to the program?	_____
3. Will the program be taking your weight and height and calculating your body mass index (BMI)?	_____
4. Are professionals, such as a registered dietitian or psychologist, available to consult with you?	_____
5. Is the diet based on *Canada's Food Guide*, encouraging the selection of a variety of foods from each of the four basic food groups - (i) milk and milk products; (ii) meat, fish, poultry and alternatives; (iii) bread and cereals; and (iv) fruits and vegetables?	_____
6. Does the weight loss program recommend regular physical activity suited to your lifestyle and physical condition?	_____
7. Does the program promote a rate of weight loss of no more than 0.25 to 1 kg (0.5 to 2 lbs) per week?	_____
8. Does the diet provide at least 5000 kilojoules (1200 calories) per day?	
9. Are your personal eating habits and nutrient intake assessed before the diet plan is designed for you?	_____
10. Are your food likes and dislikes, activity patterns, income, and lifestyle considered when the diet is planned?	_____

18 This checklist has been modified from one developed and published by the Ontario Dietetic Association, with permission of the Association.

11. Are extraordinary claims or high-pressure sales tactics involved in any part of the program? _____

12. Does the program sound too good to be true? _____

13. Does the program suggest that you can lose weight without changing your eating or activity patterns, or both? _____

14. Are follow-up services available as part of the program? _____

15. Does the program require the purchase of special products, supplements and/or injections, or the use of other devices? _____

16. Does the program provide for learning new eating and physical activity habits that can be continued for life to maintain a lower body weight? _____

17. Is the program fully explained to you? _____

The following answers should help you determine:

A) If you need to lose weight;

B) If you should consult a physician before entering a weight loss program;

C) If the weight loss program you are considering is suitable for you.

1. YES. If you have answered yes to one of the questions you should not enter a commercial weight loss program. Instead you should seek the advice of your own medical doctor about the suitability of your weight.

2. YES. If you have ongoing medical problems, your physician should know you are on a weight loss program in order to avoid any risk to your health because of a medical condition or its treatment.

3. YES. The BMI is a way of calculating fatness, or leanness, taking into consideration both weight and height. The BMI has been chosen by a federal task force of experts on the treatment of obesity as a means of screening many, if not most, people for entry into weight loss programs. However, the BMI is not a suitable screening instrument for those outside the age range of 20-65 years, very muscular people, or endurance athletes, such as distance runners.

4. YES. Appropriately trained professionals can help with specific aspects of the weight loss plan, such as nutritional and psychological counselling, and development of an exercise plan.

5. YES. A weight loss program should include a variety of foods, as outlined in *Canada's Food Guide*, to supply nutrient needs. A program without foods from each food group is less likely to supply all the important nutrients.

6. YES. Physical activity increases your energy expenditure, helps to use up energy stored as fat and tones muscles to promote better health and reasonable weight loss. If you are extremely overweight or have medical problems you should check with your doctor about the level and type of activity best suited to you.

7. YES. A gradual weight loss of 0.25 to 1 kg (0.5 to 2 lbs.) per week is recommended by the above-mentioned Task Force on the Treatment of Obesity. Losing more weight than this could result in:

I) nutrient deficiency

II) loss of muscle tissue rather than fat tissue

III) fatigue.

8. YES. This same federal task force has stated that a diet which allows food choices must contain 1200 calories per day. A diet providing less than 5000 kilojoules (1200 calories) is likely to be lacking in some nutrients, especially iron, and may result in too rapid loss of weight. Diets with food choices containing less than 1200 calories per day are intended for persons who *must* lose weight for significant medical reasons (e.g. high risk of heart disease), and should be undertaken only under medical supervision.

9. YES. Your present eating habits, physical condition and nutrient intakes should be assessed before the diet is planned to ensure that it will meet all your needs. The plan can build on your good eating habits and work toward changing the poorer ones.

10. YES. An effective weight loss program should be tailored to your way of life. There will be fewer changes to make and more enjoyment for you.

11. NO. High-pressure salesmanship, such as contracts or special packages, often leads to excessive payment for unnecessary or unused services. Beware of magical claims such as ability to dissolve fat or cellulite. There is no scientific evidence that any herb, chemical, or medication can dissolve fat or move it from one part of the body to another.

12. and 13. NO. Weight loss resulting from loss of body fat stores is a relatively slow process requiring an individual to reduce energy intake and/or increase activity level.

14. YES. Follow-up services provide a way for you to be assured that your weight loss is proceeding satisfactorily and that your diet continues to meet your needs.

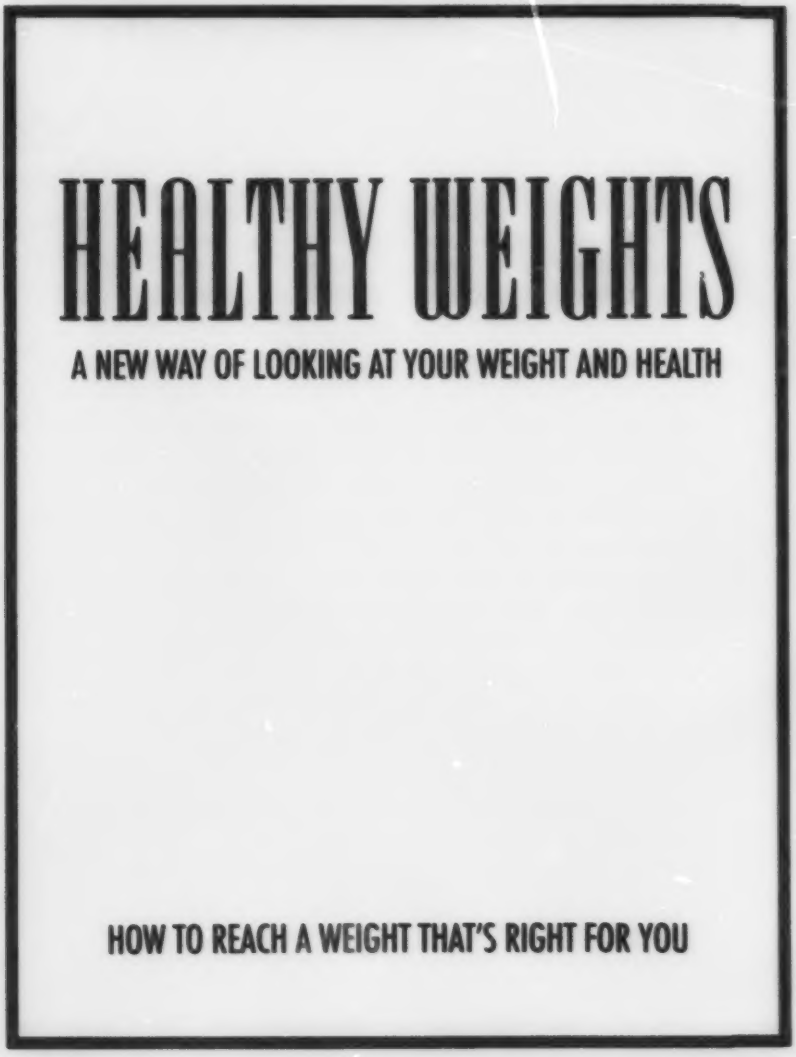
15. NO. A good weight-reducing diet, based on *Canada's Food Guide*, can provide all the nutrients you need. Vitamin-mineral supplements should not be used to replace food or correct poor eating habits. Special food products add a needless expense to your food budget, with questionable benefits to your health or weight loss.

16. YES. Long-term weight control requires a permanent change of eating habits and exercise patterns to promote a healthy lifestyle.

17. YES. All aspects of the program should be disclosed to you, including expected rate of weight loss, goal weight, diet(s) used, professional qualifications of personnel, as well as the costs of the basic program, follow-up, purchase of products, any extras, and total cost.

APPENDIX X

HEALTHY WEIGHTS
A NEW WAY OF LOOKING AT YOUR WEIGHT AND HEALTH[19]



[19] Ontario Ministry of Health. Toronto, 1989.

PROFILE OF A DIETER

If you aren't happy about your weight, you're not alone. About every third person you meet is either on a diet, has just fallen off a diet or intends to go on a diet.

Most people who diet fall into one of these three categories. Do you recognize yourself in any of them?

Definitely overweight dieter

You are the person who keeps diet book publishers in business since you always are trying some new diet to take off that extra weight. You do lose weight when you stick to a diet. But, the moment you slack off, the weight comes back on. You've probably been overweight, off and on, for a number of years.

Healthy weight dieter

You're at a healthy weight, but you'd like to be thinner. Perhaps last year's clothes don't fit or you've gained a little a year over the last few years. Whatever the reason, you go on a diet even though you want to lose only a few kilograms (five to ten pounds).

Underweight dieter

Although you are thin, you can't see it. You diet thinking that you will like yourself better when you have a 'perfect' body that is fat-free. To this end, you probably exercise quite a lot, too. But your obsession with dieting is hurting you both physically and mentally.

If you see yourself in any of these profiles, you may be aiming for an unrealistic weight.

What should you aim for? This booklet will give you a new outlook on your weight and help you set goals that are healthy and achievable.

THE DOWNFALL OF DIETING

Why do you need a new outlook on the way you control your weight? Because some short-term diets can hurt you—physically and mentally. As well, most strict diets simply don't work. Here's why:

- If you're like most people, you get bored with the limited food choices in diets, and quit quickly. Diets don't alter your long-term eating patterns.
- When you come off a diet, you may gain *more* weight faster. You see, your body adapts to getting fewer calories by using what few it gets very well. Having learned not to waste calories, your body is better than ever at storing those calories it doesn't use as fat.
- Dieting upsets your internal balance of water and minerals. This can lower your blood pressure a lot, leaving you ill, weak or with an irregular heart beat.
- Just as your weight see-saws, so can your emotions and self-esteem. You tend to feel that by failing to control your weight, you've failed at other things. It's tough to live with a constant sense of failure and disappointment.
- Extreme dieting has been known to lead to eating disorders such as anorexia nervosa and bulimia. It also can cause other severe health problems, even death.

A NEW OUTLOOK

Since few diets work, why do people keep trying them? Perhaps it's because many people have a distorted view of how slim they should be. Very thin people crowd every advertisement, TV show, movie and fashion magazine. Thin is seen as being beautiful and fashionable, the key to wealth and power. No wonder so many people will do practically anything to lose weight.

But fashions change, sometimes for health reasons. Today's thin look is being replaced by a new concept of healthy weights.

This new concept recognizes that there is no one ideal weight for everyone of the same height because people have different body shapes and frames. Instead there is a range of weights that are healthy for your height. You pick the weight within the healthy range that looks right and feels right for you.

For example, if you have a big frame or are muscular you might be at the top end of the healthy weight range. If you have a small frame or tiny build you might be at the bottom end of the range. Your weight is fine as long as it doesn't put you at risk of developing health problems.

One advantage of the healthy weight approach is that it will get you off the diet bandwagon and on to healthier eating and exercise habits. It enables you to:

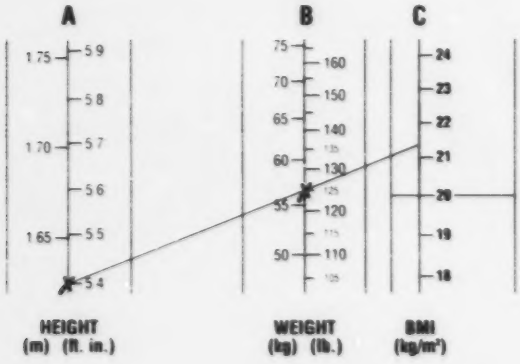
- Look good.
- Feel healthy and energetic.
- Be fit and trim.
- Focus on things more important than dieting.

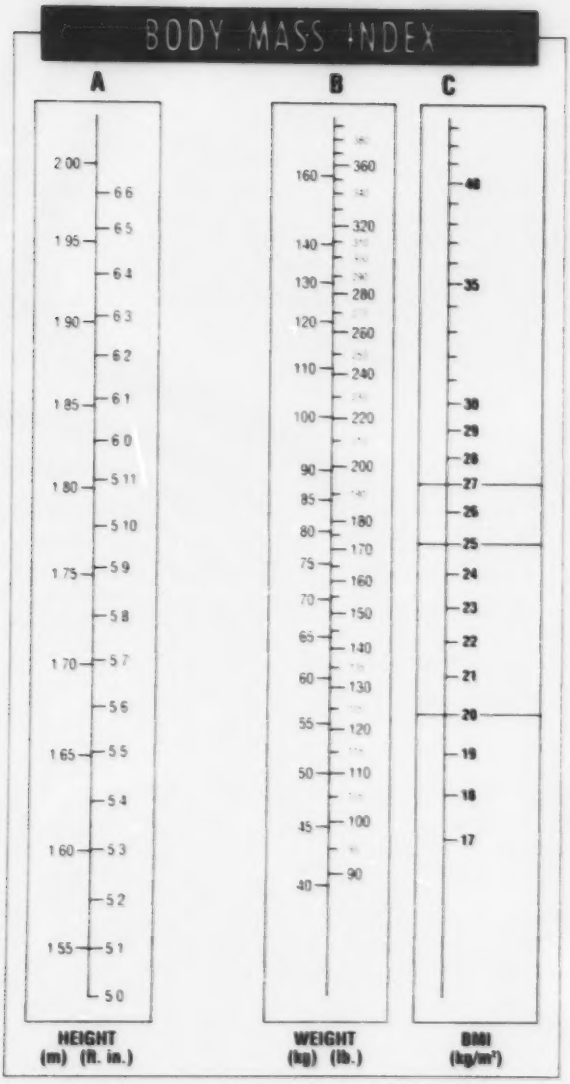
SIZE UP YOUR WEIGHT

Health experts use a scientific measure called the Body Mass Index (BMI) to figure out whether your weight is healthy. To make it easy, here's a chart that will show your BMI in four easy steps.

- Mark an X at your height on Scale A.
- Mark an X at your weight on Scale B.
- Draw a line to join the two Xs.
- Extend this line to Scale C.
  Where the line meets Scale C is your BMI.

Example
Carol is 163 cm (5'4") tall and weighs 56 1/2 kg (125 lb.). Her BMI is just over 21.





Adapted from a chart produced by Health and Welfare Canada

The big exceptions

The BMI is designed for adults aged 20 to 65 years—those whose body size and composition are fairly stable.

It does not apply to babies, children, adolescents, pregnant or nursing women, senior citizens, *very* muscular people and endurance athletes such as runners.

What your BMI means

As you can see, BMI figures have been divided into colored zones. Now that you know what your BMI is, turn the page to find out what it means. Remember, if you have a big frame you might be at the top end of the healthy weight range; a small frame, at the bottom.

WEIGHT GUIDELINES FOR ADULT CANADIANS

BMI less than 20

A BMI of less than 20 may contribute to health problems in some people. Some of the health risks you face by being underweight are:

- high blood pressure
- heart irregularities
- depression and other emotional distress
- anemia
- diarrhea

BMI 20-25

This is a good range for most people. If you fall within this zone and eat sensibly, your weight shouldn't cause any health problems.

BMI 25-27

This a caution zone; watch your weight. While still within an acceptable range, a BMI of 25–27 could lead to health problems for some people.

BMI greater than 27

The higher your BMI goes above 27, the more you risk developing these health problems:

- high blood pressure
- diabetes
- heart disease
- certain cancers
- arthritis
- poor mental health caused by low self-esteem

The Healthy Alternative

If your BMI shows that you're above a healthy weight, there is an alternative to dieting: healthy eating combined with healthy physical activity.

If you aren't really overweight or underweight, relax. Learn to like (or at least accept) your body. After all, you can't change your basic build or bone structure any more than you can change your height.

GETTING ON THE RIGHT TRACK

Improving your eating habits may not be as difficult as you think.

- Don't cut out, cut back. Train yourself to eat smaller portions, especially of meat, by cutting back a little at a time.
- Think of lower calorie substitutes when you're cooking or preparing food. How about yogurt for sour cream in dips and on baked potatoes? Try skim milk instead of whole milk in recipes. Every little change helps.
- Although at first you might miss lots of fat and sugar in your food, it's surprising how quickly your taste-buds will adjust. Enjoy the crunch of raw vegetables instead of the crackle of potato chips and the natural sweetness of ripe fruit instead of the sticky sweetness of cake.
- Zap your taste-buds with non-fattening flavorings such as lemon juice, garlic, mustard, herbs, spices, curry powders, chili sauce and salsa.
- Don't make any food taboo. You can eat anything you want, but in moderation. Eating a donut once in a while won't make you fat.
- Switch your mealtime thinking by eating more starchy foods, such as potatoes, pasta, rice, bread and dried beans. Starchy foods are filling, but low in fat.
- If you're on the run, most convenience stores offer some basics for a good meal or snack. Milk or juice, yogurt, bran muffins and fresh fruits are all good choices.
- Best choices for a main meal in a restaurant are a small grilled steak, poached fish, roast chicken, pasta or a fruit salad plate. Avoid dishes with rich sauces or gravy. Ask for your salad dressing and coffee cream to be served on the side so you can control how much you use.

Now, turn the page to find out what foods you should be eating to get to and stay at a healthy weight.

CANADA'S FOOD GUIDE...MAKING THE RIGHT CHOICES

Canada's Food Guide is the key to healthy eating. Eat the recommended number of servings from each of the four food groups every day, and your body will get all the nutrients it needs. Remember to pick different foods for variety, selecting the

FRUITS AND VEGETABLES

Eat 4 to 5 servings per day

Examples of one serving:

- 125 mL (1/2 cup) fruits or vegetables—fresh, frozen or canned
- 125 mL (1/2 cup) fruit or vegetable juice
- 1 medium-sized potato, carrot, tomato, peach, apple, orange or banana

Healthiest choices

- All fresh fruits and vegetables are good choices. Fruits have more fibre than juices.
- Choose unsweetened juice and canned fruit packed in its own juice or light syrup.
- Avoid frozen or canned vegetables with added salt or sauces.

BREADS AND CEREALS

Eat 3 to 5 servings per day

Examples of one serving:

- 1 slice of bread or 1 roll
- 125 mL (1/2 cup) cooked cereal
- 175 mL (3/4 cup) ready-to-eat cereal
- 125-175 mL (1/2–3/4 cup) any pasta, rice, barley, kasha or other cooked grain
- 1 small muffin

Healthiest choices

- Choose the nuttier, tastier whole grain breads such as rye and whole wheat.
- Rolled oats, bran and mixed grains are the highest fibre choices in cooked cereals.
- The best cold cereals are unsweetened bran and whole grain.

healthiest choices whenever possible. The servings listed in this guide are recommended minimum portions. If you're at a healthy weight, you can eat more to satisfy your hunger and energy needs.

MILK AND MILK PRODUCTS

Eat 2 servings per day (adults)

Examples of one serving:

- 250 mL (1 cup) milk
- 175 mL (3/4 cup) yogurt
- 45 g (1 1/2 ounces) cheese

Healthiest choices

- Pick skim or 2% milk.
- Choose yogurt and cottage cheese with 2% fat or less.
- Try low-fat cheese such as skim milk processed cheese, ricotta and partly skimmed mozzarella.

MEAT, FISH, POULTRY AND ALTERNATES

Eat 2 servings per day

Examples of one serving:

- 60-90 g (2-3 ounces) meat, fish or poultry
- 250 mL (1 cup) legumes such as dried beans, peas or lentils
- 125 mL (1/2 cup) nuts or seeds
- 125 mL (1/2 cup) cottage cheese
- 2 eggs

Healthiest choices

- Pick well-trimmed meats with minimum marbling of fat throughout.
- Lower fat fish, such as halibut and sole, is your best choice. Pick canned tuna and salmon packed in water or broth, not oil.
- Good sources of fibre are lentils, split peas and different beans such as white beans, navy beans, garbanzo beans or kidney beans.

FINE-TUNING YOUR EATING HABITS

Eat less fat

- Make a little meat go further by cooking it in a casserole, stir-fry, hearty soup, stew or in a sauce with pasta.
- Choose the low-fat methods of cooking—baking, boiling, broiling, steaming or microwaving—instead of frying.
- Plan meals around pasta, rice, beans and vegetables instead of meat. You'll get more fibre, more carbohydrates and less fat.
- Remove the skin from chicken and turkey before you cook or eat it.
- The lowest fat cold cuts are lean ham, roast beef, chicken and turkey.
- Eat nuts and seeds only once in a while because they're very high in fat.
- Use butter, oils, margarine, mayonnaise, sour cream, and salad dressings sparingly. When available, choose the 'light' varieties with less fat.

Cut down on high calorie extras

- Snack foods such as potato chips and corn chips are high in fat, salt and calories.
- Cookies, cakes, pastries, chocolate bars and candy can add a lot of sugar, fat and calories to your diet.
- Caffeine, found in coffee, tea, cola soft drinks and chocolate, can lower your blood sugar and make you hungrier.
- Alcohol is a source of extra calories and potential health problems.

PICKING UP THE PACE

Calories are a form of energy. If your body can't use all the calories you eat, it will store them as fat. One of the best ways to use up stored calories, or prevent them from being stored, is to become more active.

Exercise helps to control more than your weight. It makes you feel better and could improve your health. It also makes the most of the body shape you've got. The best form of exercise follows the FIT formula.

F STANDS FOR FREQUENCY. If you want to control your weight, you should do some form of physical activity every other day. Better yet, try for every day.

I STANDS FOR INTENSITY, or how hard you should push yourself. If you can't talk while exercising, you're pushing too hard. Start slowly, doing what you can, then gradually do a little more. (Check with your doctor before starting any exercise program.)

T IS FOR TIME or how long you should work out. For weight control, exercise for at least half an hour each time. Of course, you may not be able to start off at this pace, but you can work towards it.

CHOOSING AN ACTIVITY

The most important element in getting fit is finding something you like to do. That way you'll do it more often. Everything counts. If you're overweight or in poor physical condition, walking is one of the best options. It's cheap, you don't need any special skills or equipment and you can do it year-round.

Some other factors to keep in mind in choosing an activity or sport:

- Be realistic, especially when you're starting out. Don't set yourself up for failure by starting, for example, with a difficult aerobics program. Work your way up to fitness.
- Choose some form of major continuous motion such as walking, jogging, swimming, rowing or racquet sports. Sit-ups may be good for the stomach muscles, but they don't use many calories.
- Think about your lifestyle before you settle on an activity. Choose something that fits into your day, such as a walk at lunchtime. Keep in mind your responsibilities, the weather and travel time.
- Walking a mile uses as many calories as running a mile, so choose what you like best.

Making physical activity a natural part of your life is key to getting fit. Walk to the store instead of driving. Take the stairs instead of the escalator or elevator. Think of ways you can become more active in your daily routine. It all adds up.

PSYCHING UP FOR SUCCESS

Your attitude can make a big difference. Here are tips that might help you reach and stay at a healthy weight.

- Think positively. Believe in yourself and your ability to reach a healthy weight.
- Lose weight the way you gained it—slowly. After all, you're in this for life. Make your goal of a healthy weight a long-term commitment, not a one-day wonder.
- Stress can knock the most committed individual off track, so don't let it derail your goal of achieving a healthy weight. Find healthy ways to deal with stress. Physical activity, listening to music or meditation might help.
- Scales are great on fish but hard on humans. Weigh yourself only occasionally to avoid being hung up on minor weight changes.
- Each time you think of something negative about your body such as "my thighs are too heavy," think of something positive about yourself: "I'm a caring person, I have a sense of humor, I'm a good parent."
- Give yourself time to adjust to a new pattern of healthy eating and regular physical activity. It's the most successful way to get to and stay at a healthy weight.

HEALTH
it's a great feeling!

This booklet is one of a series produced by the Ontario Ministry of Health to promote healthier lifestyle habits. For more information on nutrition, contact a public health nutritionist at your local health unit. Health units/departments are listed in the blue pages of your telephone directory under "Municipal Government."

Ministry of Health
Ontario

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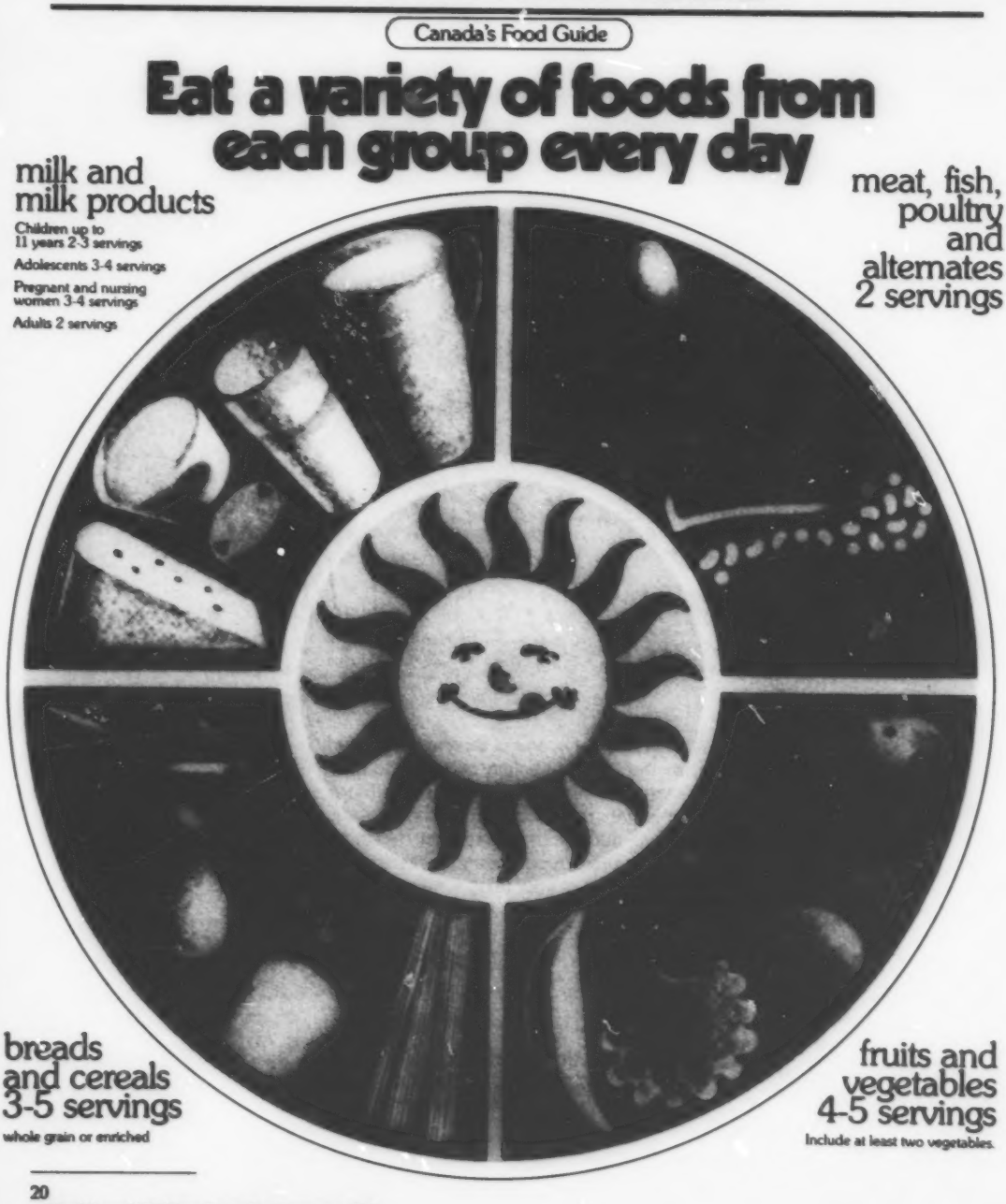
APPENDIX XI

CANADA'S FOOD GUIDE[20]


Canada's Food Guide
Eat a variety of foods from each group every day
milk and milk products
Children up to 11 years 2-3 servings
Adolescents 3-4 servings
Pregnant and nursing women 3-4 servings
Adults 2 servings
meat, fish, poultry and alternates 2 servings
breads and cereals 3-5 servings
whole grain or enriched
fruits and vegetables 4-5 servings
Include at least two vegetables.

20 Health and Welfare Canada. Ottawa, 1985.

FOOD AND DRUG ACT AND REGULATIONS

Foods for Special Dietary Use

B.24.001. In this Division,"expiration date" means, with respect to a formulated liquid diet, the date ending the period during which the product retains its nutritional value without any appreciable deterioration;(date limité d'utilisation)

"food for special dietary use" means food that has been specially processed or formulated to meet the particular requirements of a person

(a) in whom a physical or physiological condition exists as a result of a disease, disorder or injury, or

(b) for whom a particular effect, including but not limited to weight loss, is to be obtained by a controlled intake of foods; (aliment a usage diététique special)

"formulated liquid diet" means a food that

(a) is sold for consumption in liquid form, and

(b) is sold or represented as a nutritionally complete diet for oral or tube feeding of a person described in paragraph (a) of the definition "food for special dietary use"; (préparation pour régime liquide)

"meal replacement" means a single food that is sold or advertised for sale as a replacement for one or more daily meals and, for the purposes of sections B.24.017, B.24.200, B.24.202, B.24.204 and B.24.205, that is sold or represented for use in a weight reduction diet; (substitut de repas)

"prepackaged meal" means a prepackaged selection of foods for one individual that requires no preparation other than heating and, for the purposes of sections B.24.201 and B.24.203 to B.24.205, that is sold or represented for use in a weight reduction diet. (repas préemballé)

B.24.002. Revoked by P.C. 1977-2550 of September 15, 1977.

B.24.003. (1) No person shall label, package, sell or advertise a food in a manner likely to create an impression that it is a food for special dietary use unless the food is

(a) a carbohydrate-reduced food that meets the requirements contained in section B.24.004;

(b) a sugar-free food that meets the requirements contained in section B.24.005;

(c) a calorie-reduced food that meets the requirements contained in section B.24.006;

(d) a low calorie food that meets the requirements contained in section B.24.007;

(e) a low sodium food that meets the requirements contained in section B.24.008;

(f) a formulated liquid diet that, up to the time of its expiration date, meets the requirements contained in sections B.24.101 and B.24.102 or a meal replacement that meets the requirements contained in section B.24.200;

(f.1)a food for a fat-modified diet that meets the requirements contained in section B.24.015;

(g) represented for gluten-free diets;

(h) represented for protein-restricted diets; or

(i) represented for low (naming the amino acid) diets.

(2) Subsection (1) does not apply to infant formulas.

(3) No person shall label, package, sell or advertise a food in a manner likely to create an impression that it is for use in a weight reduction diet unless that food is

(a) a meal replacement that meets the requirements contained in section B.24.200; or

(b) a prepackaged meal that meets the requirements contained in section B.24.201.

B.24.004. A carbohydrate-reduced food is a food

(a) that would, if it were not carbohydrate-reduced, derive at least 25 per cent of the calories contained in that food from its carbohydrate content; and

(b) that, when ready to serve,

(i) contains not more than 50 per cent of available carbohydrate normally found in that food when it is not carbohydrate-reduced as determined by an acceptable method, and

(ii) provides no more calories than would be provided if it were not carbohydrate-reduced.

TABLE

Vitamins	Per 1,000 available kilocalories		Per 1,500 available kilocalories	
	Minimum	Maximum	Minimum	Maximum
Vitamin A	2,000 International Units	5,000 International Units	2,000 International Units	3,000 International Units
Vitamin D	100 International Units	400 International Units	100 International Units	200 International Units
Vitamin E (a-tocopherol)	5.0 International Units		5.0 International Units	
Ascorbic Acid	20 milligrams		20 milligrams	
Thiamine	0.5 milligram		0.6 milligram	
Riboflavin	0.7 milligram		0.84 milligram	
Niacin	6.6 milligrams		7.9 milligrams	
Vitamin B_6	0.9milligram		0.9 milligram	
Vitamin B_{12}	1.5 micrograms		1.5 micrograms	
Folic Acid	100 micrograms		100 micrograms	
d-pantothenic Acid	2.5 milligrams		2.5 milligrams	
Calcium	400 milligrams		400 milligrams	
Phosphorus	400 milligrams		400 milligrams	
Iron	8 milligrams		8 milligrams	
Iodine	50 micrograms		50 micrograms	
Magnesium	150 milligrams		150 milligrams	
Copper	1 milligram		1 milligram	
Zinc	7 milligrams		7 milligrams	

B.24.103. The label of a formulated liquid diet shall carry the following information:

(a) a statement that the food is intended to be consumed orally or by tube feeding;

(b) a statement of the energy value of the food, expressed in Calories

(i) per 100 grams or per 100 millilitres of the food as offered for sale, and

(ii) per unit of ready-to-serve food;

(c) a statement of the content in the food of protein or protein equivalent, fat, linoleic acid, available carbohydrate and, where present, crude fibre, expressed in grams

(i) per 100 grams or per 100 millilitres of the food as offered for sale, and

(ii) per unit of ready-to-serve food;

(d) a statement of the content of vitamins and mineral nutrients that are listed in the table to section B.24.102, expressed in International Units or milligrams

(i) per 100 grams or per 100 millilitres of the food as offered for sale, and

(ii) per unit of ready-to-serve food;

(e) a statement of the content of any vitamin or mineral nutrient that is not listed in the table to section B.24.102, expressed in milligrams

(i) per 100 grams or per 100 millilitres of the food as offered for sale, and

(ii) per unit of ready-to-serve food;

(f) complete directions for the preparation and use of the food and for its storage after the container has been opened; and

(g) the expiration date of the formulated liquid diet.

Meal Replacements and Prepackaged Meals for Weight Reduction Diets

B.24.200. (1) A meal replacement shall, when sold ready to serve or when diluted with water, milk or a combination thereof as directed, meet the following requirements:

(a) not less than 20 per cent and not more than 40 per cent of the energy available from the food shall be derived from its protein content;

(b) not more than 35 per cent of the energy available from the food shall be derived from its fat content;

(c) not less than 3.0 per cent of the energy available from the food shall be derived from linoleic acid in the form of a glyceride;

(d) the protein present in the food shall be

(i) of a nutritional quality equivalent to casein, or

(ii) of a quality and amount to yield a result of not less than 20 per cent when the quality of such protein is divided by the quality of casein and multiplied by the percentage of energy available from protein present in the food,

(e) except in the case of a meal replacement that is to be consumed as a liquid, or that is a cookie or biscuit without any filling or icing, not more than 30 per cent of the available carbohydrates in the food shall be in the form of sucrose or fructose;

(f) the ratio of calcium to phosphorus present in the food shall be not less than 1;

(g) a serving of the food when ready to serve shall contain at least 225 kilocalories; and

(h) a serving of the food when ready to serve shall contain each vitamin and mineral listed in column I of the table to this section in an amount

(i) not less than the amount shown in column II of that table for that vitamin or mineral, and

(ii) subject to subsection (2), not more than the amount shown in column II of that table for that vitamin or mineral.

(2) Subparagraph (1)(h)(ii) does not apply with respect to a vitamin or mineral that has not been added to the meal replacement.

(3) A meal replacement that is sold or advertised for sale as a replacement for all meals in a diet shall be accompanied by directions for use that, if followed, will result in a daily energy intake of at least 900 kilocalories.

TABLE

Vitamins	Minimum	Maximum
Vitamin A	1,250 International Units	2,500 International Units
Vitamin D	25 International Units	50 International Units
Vitamin E	3.5 International Units	7.0 International Units
Vitamin C	7.5 milligrams	15 milligrams
Thiamine	375 micrograms	750 micrograms
Riboflavin	425 micrograms	850 micrograms
Niacin	5 milligrams	10 milligrams
Vitamin B_6	0.5 milligram	1.0 milligrams
Vitamin B_{12}	0.75 microgram	1.5 micrograms
Folic acid	50 micrograms	100 micrograms
Biotin	10 micrograms	20 micrograms
d-pantothenic acid	1.25 milligrams	2.5 milligrams
Minerals		
Calcium	200 milligrams	400 milligrams
Phosphorus	200 milligrams	400 milligrams
Iron	3.5 milligrams	7 milligrams
Iodine	35 micrograms	70 micrograms
Magnesium	75 milligrams	150 milligrams
Copper	0.5 milligram	1.0 milligrams
Zinc	2.5 milligrams	5 milligrams
Potassium	375 milligrams	—
Manganese	0.65 milligram	1.3 milligrams
Sodium	250 milligrams	—

B.24.201. A prepackaged meal shall contain at least one average-sized serving

(a) of meat, fish, poultry, legumes, nuts, seeds, eggs or milk or other dairy products, excluding butter, cream, sour cream, ice cream, ice milk and sherbet; and

(b) of vegetables, fruits or cereal products.

B.24.202. The label of a meal replacement shall

(a) show the following information, per serving of stated size and per stated quantity of ready-to-serve food:

(i) the energy value of the food, expressed in Calories (Calories or Cal) and kilojoules (kilojoules or kJ),

(ii) the content of protein, fat, linoleic acid and available carbohydrate, expressed in grams,

(iii)the content of vitamin A, vitamin D, vitamin E, vitamin C, thiamin or vitamin B_1, riboflavin or vitamin B_2, niacin, vitamin B_6, folacin, vitamin B_{12} and pantothenic acid or pantothenate in the food, expressed as a percentage of the recommended daily intake specified in column II of the table to Division 1 of Part D for that vitamin,

(iv)the content of calcium, phosphorus, magnesium, iron, zinc and iodide in the food, expressed as a percentage of the recommended daily intake specified in column II of the table to Division 2 of Part D for that mineral nutrient, and

(v) the content of sodium, potassium, biotin, copper and manganese in the food, expressed in milligrams;

(b) carry a statement that adherence to the directions for use may reduce energy intake that is necessary for weight loss, and

(c) in the case of a meal replacement to which milk is to be added, carry a statement that the nutrient content of the food when ready to serve includes milk added according to directions.

B.24.203. The label of a prepackaged meal shall

(a) show the following information, per serving of stated size of the food:

(i) the energy value of the food, expressed in Calories (Calories or Cal) and kilojoules (kilojoules or kJ), and

(ii) the protein, fat and carbohydrate content of the food, expressed in grams; and

(b) carry a statement that adherence to the directions for use may reduce energy intake that is necessary for weight loss.

B.24.204. The label of a meal replacement, other than a meal replacement that is represented as a replacement for all meals in a diet, or of a prepackaged meal shall include, in the directions for use, a sample seven-day menu in which the meal replacement or prepackaged meal, as the case may be, is used and that meets the following requirements:

(a) each day's menu includes at least one food from each of the following groups:

(i) milk and other dairy products, excluding butter, cream, sour cream, ice cream, ice milk and sherbet,

(ii) meat and meat alternates,

(iii)bread and cereal products, and

(iv)fruits and vegetables;

(b) the daily energy intake provided for is not less than 900 kilocalories and not more than

(i) 1500 kilocalories, in the case of a menu recommended for females,

(ii) 1800 kilocalories, in the case of a menu recommended for males;

(c) not more than 35 per cent of total daily energy intake is derived from fat;

(d) each day's menu is designed so that not more than 40 per cent of the total daily energy intake is provided by any one meal;

(e) the mean daily intake of each nutrient listed in the table to this section shall be not less than the amount shown:

TABLE

Nutrient	Mean Daily Intake	
	Males	Females
Protein	56 grams	41 grams
Thiamine	1.5 milligrams	1.1 milligrams
Riboflavin	1.8 milligrams	1.3 milligrams
Niacin	20 milligrams	14 milligrams
Vitamin B_6	2 milligrams	1.5 milligrams
Folic Acid	200 micrograms	200 micrograms
Vitamin B_{12}	3 micrograms	3 micrograms
Pantothenic Acid	5 milligrams	5 milligrams
Vitamin C	30 milligrams	30 milligrams
Vitamin A	5,465 International Units	4,375 International Units
Vitamin D	100 International Units	100 International Units
Vitamin E (a-tocopherol)	13 International Units	9 International Units
Calcium	800 milligrams	700 milligrams
Phosphorus	800 milligrams	700 milligrams
Magnesium	300 milligrams	250 milligrams
Iodine	150 micrograms	110 micrograms
Iron	10 milligrams	14 milligrams
Zinc	10 milligrams	9 milligrams
Copper	2 milligrams	2 milligrams

(i) in column II of that table for such nutrient, in the case of a menu recommended for males, and

(ii) in column III of that table for such nutrient, in the case of a menu recommended for females; and

(f) the menu does not include any reference to vitamin or mineral supplements.

B.24.205. (1) No person shall label, package, sell or advertise a meal replacement or a prepackaged meal in a manner likely to create an impression that consumption of any vitamin or mineral supplement must or should be part of a weight reduction diet.

(2) No person shall, in a label or advertisement of a meal replacement or a prepackaged meal, make any direct or indirect reference to any vitamin or mineral supplement.

(3) Every person who advertises a meal replacement or a prepackaged meal shall include in the advertisement a statement that adherence to the directions for use may reduce energy intake that is necessary for weight loss.

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